KADİR HAS UNIVERSITY

ISTANBUL TURKEY

Asian Academic Accounting Association

10th Annual Conference

15 - 18 November 2009

CONFERENCE PROCEEDINGS E-BOOK

INTERNATIONAL ACCOUNTING:
A World of Opportunities and Challenges

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10. ANNUAL ASIAN ACADEMIC ACCOUNTING ASSOCIATION CONFERENCE PROCEEDINGS

15-18 November 2009
Kadir Has University
Istanbul/Turkey

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Editor:
Assoc. Prof. Dr. Mehmet Hasan Eken

Associate Editor:
Dr. Serkan Çankaya

Preface

Welcome to the Tenth Annual Conference of the Asian Academic Accounting Association hosted by Kadir Has University in Istanbul on Novemner 15-18, 2009! This is the first time that this prestigious conference is being held in Turkey. We are delighted to be the hosts for the auspicious tenth year of the conference. The Asian Academic Accounting Association is the premier professional organization for accounting academics across Asia. Its mission is to enhance accounting education and research and to build strong ties with the professional accounting community. The conference typically attracts accounting academics from over thirty countries along with members of the business community from the host country.

This year we received 175 manuscripts from academicians in 42 countries on five continents. 95 of these papers have been selected for presentation at the concurrent sessions, after two blind reviews. An additional 17 manuscripts were selected for the research forum applying the same review procedure. We anticipate 200 registrants, including accounting professionals in Turkey, at the conference.

This conference has been organized by a team of seven academicians. Two members of this team including Dr. Mehmet Hasan Eken, incoming AAAA President and Dr. Serkan Çankaya (both of Kadir Has University) have worked particularly diligently over the past year on organizing this conference. The AAAA appreciates their tremendous contributions in making the conference a great success.

This proceeding book contains 95 manuscripts that have been presented at the conference in various areas of accounting and finance alphabetically listed below. The conference program also lists the manuscripts for the research forum.

1- Accounting Education
2- Auditing
3- Behavioral Issues in Accounting
4- Capital Markets
5- Corporate Finance
5- Corporate Governance
6- Earnings Management
7- Financial Reporting
8- International Accounting
9- Islamic Accounting, Banking and Finance
10- Management Accounting
11- Social and Environmental Accounting
12- Social Responsibility
13- Other Issues in Accounting

Shahrokh M. Saudagaran   Mehmet Hasan Eken
Secretary General   President
Asian Academic Accounting Association   Asian Academic Accounting Association

TABLE OF CONTENTS

3.1: Financial Reporting

3.2 Management Accounting

3.3 Earnings Management

3.4 Capital Markets

8

Haji-Abdullah (Universiti Utara Malaysia, Malaysia)

5.2 Islamic Accounting, Banking and Finance

5.3 Social and Environmental Accounting

5.4 Capital Markets

5.5 Corporate Governance

11

6.5 International Accounting

7.1: Financial Reporting

7.2: Other Issues in Accounting

(Airlangga University, Indonesia)

10. Annual Asian Academic Accounting Association Conference Program

Sunday, November 15, 2009

8:30 AM – 09.00 AM
Registration

9:00 AM – 09.15 AM
Welcome and Introduction – M. Hasan Eken –Director of Institute of Social Sciences, Kadir Has University

9:15 AM – 10.30 AM
Country Study: Accounting Research in Japan: Current Paradigm and Opportunities - Noguchi Akihiro- Nagoya University

10:30 AM – 10.45 AM
Refreshment Break

10:45 AM – 12.00 AM
Current Trend in Accounting Research: Accounting and Valuation: Connecting Accounting with Finance - P.K.Sen - University of Cincinnati

12:00 AM – 13.30 PM
Lunch Break

13:30 PM – 14.45 PM
Parallel Panels: Finding a Research Topic – Mine Aksu - Sabancı University & P.K.Sen - University of Cincinnati
Writing and Publishing a Dissertation –Noguchi Akihiro- Nagoya University & Hajah Mustafa Mohd Hanefah - Islamic Science University of Malaysia

14:45 PM – 15.00 PM
Refreshment Break

15:00 PM – 16.30 PM
Round Table Research Symposium – Faculty
15 min presentation followed by discussions:

- *Classification of Minority Interest on the Consolidated Balance Sheet in Japan* - Masako Futamura, Nagoya University, Japan
- *Disclosure, Cost of Capital and Islamic Banks Performance: A Simultaneous Equations Approach* - Nurul Huda Abdul Majid, Universiti Utara Malaysia, Malaysia
- *Corporate Governance and Earnings Management: A Study on the Malaysian Market* - Nooriha Mansor, Universiti Teknologi MARA Perak, Malaysia
- *Economic Effects from Accounting Policy: The Mergers and Acquisitions Case* – Humberto Ribeiro, Leicester Business School, UK

4:30 PM - 5:30 PM
Plenary Session - Preparing for a lifelong career in Academia - Shahrokh Saudagaran – University of Washington

Monday, November 16, 2009

9:00 AM – 10.00 AM
Registration

10:00 AM – 11.30 AM
Opening Plenary

M. Hasan Eken –Director of Institute of Social Sciences – Kadir Has University, President-Elect, AAAA

Shahrokh Saudagaran - Dean for the Milgard School of Business - University of Washington, Secretary-General, AAAA

Masum Türker - TÜRMOB

Yücel Yılmaz – Rector of Kadir Has University

Keynote Speaker

Bülent Üstünel – Chairman of Turkish Accounting Standards Board

11:30 AM – 12:00 AM
Refreshment Break

12:00 AM – 13:30 PM
Concurrent Sessions

Session 1.1: Accounting Education   Room 1
Moderator: Lindawati Gani, Universitas Indonesia, Indonesia

Accounting Technicians' Capabilities: the Employer and Student Perspectives
Shirley Carr, (Massey University, New Zealand), Frances Chua (Massey University, New Zealand), Mike Fermor, Universal College of Learning (UCOL), Whanganu, New Zealand

Back to the Basic -- Accounting as Number-crunching Courses
Arief Surya Irawan (Universitas Gadjah Mada, Indonesia), Sony Warsono (Universitas Gadjah Mada, Indonesia), Arif Darmawan (Accounting Division of Accounting Corner, Indonesia), Muhammad Arsyadi Ridha (Accounting Division of Accounting Corner, Indonesia)

Benchmarking the First Year Accounting Unit: Some Evidence from Australia
Nick Sciulli (Victoria University, Australia), Malcolm Smith (Curtin University, Australia), Phil Ross (University of Western Sydney, Australia)

1.2 Behavioral Issues in Accounting   **Room 2**
Moderator: Sidharta Utama, University of Indonesia, Indonesia

Do Analysts' Recommendations Contribute to the IPO Underperformance Puzzle?
Chee-Meng Yap (National University of Singapore, Singapore), Yew-Kee Ho (National University of Singapore, Singapore)

Do digital reporting formats impact decision accuracy and cognitive effort?
Fawzi Laswad (Massey University, New Zealand), Erlane K. Ghani (Universiti Teknologi Mara, Malaysia), Stuart Tooley (Queensland University of Technology, Australia)

Fairness Perceptions and Compliance Behavior: New Zealand Evidence
Natrah Saad (University of Canterbury, New Zealand)

1.3 Earnings Management   **Room 3**
Moderator: Miho Nakamura, Oita University, Japan

Does Investor Protection Affect The Choice Of Earnings Management Methods Through Real Activity Manipulation And Accrual Manipulation? Asian Comparison
Ratna Candra Sari (Gadjah Mada University, Indonesia), Sony Warsono (Gadjah Mada University, Indonesia), Sri Suryaningsum (Gadjah Mada University, Indonesia)

The Effect of Majority Shareholder Ownership on Real Earnings Management: A Korean Perspective
Ho Young Lee (Yonsei University, South Korea), Jai-Min Goh (Yonsei University, South Korea) Lee Jung-Wha (Hanyang University, South Korea)

Related Parties' Transaction and Earnings Management: A Case in Indonesia
Sumiyana (Universitas Gadjah Mada, Indonesia), Rahmat Febrianto (Universitas Andalas, Indonesia)

1.4 Capital Markets **Room 4**

Moderator: Pradyot K. Sen, University of Cinninati, USA

Further Evidence from Emerging Capital Markets that both Firm-Specific and Market-Wide Regime Shifting Behavior Approach Explains Asymmetric Price Reaction
Slamet Sugiri (Universitas Gadjah Mada, Indonesia), Sumiyana (Universitas Gadjah Mada, Indonesia)

Have the economic effect of Japanese corporate merger changed?
Ohashi Yoshitaka (The University of Aizu, Japan), Takahashi Mioko (Takasaki City University of Economics, Japan)

Impact of Quarterly Disclosure on information Asymmetry: Evidence from Tokyo Stock Exchange Firms
Hitoshi Takehara (Waseda University, Japan), Keiichi Kubota (Chuo University, Japan), Kazuyuki Suda (Waseda University, Japan)

1.5 Corporate Governance **Room 5**

Moderator: Yoshikazu Ishinagi, Nagoya University, Japan

Agency Theory and Managerial Ownership: Evidence from Malaysia
Mazlina Mustapha (Universiti Putra Malaysia, Malaysia), Ayoib Che Ahmad (Universiti Utara, Malaysia)

Antecedents of CEO Selection in Malaysian Public Listed Companies
Rokiah Ishak (Universiti Utara Malaysia, Malaysia), Ku Nor Izah Ku Ismail, Shamsul Nahar Abdullah

Board Composition Expertise and Earnings Quality
Hafiza Aishah Hashim (Universiti Malaysia Terengganu, Malaysia), S. Susela Devi (Universiti Malaya, Malaysia), Ferdinand A Gul (The Hong Kong Polytechnic University, Hong Kong)

1.6 Research Forum **Room 6**

Moderator: TBD

13:30 PM – 14:30 PM
Lunch Break

14:30 PM – 16:00 PM
Concurrent Sessions

Session 2.1: Accounting Education   **Room 1**
Moderator: Shirley Carr, Massey University, New Zealand

Data Examining Postings to the Discussion Board in Introductory Accounting
Abdel K Halabi, (University of Witswaterrand,South Africa)

Investigation of Importance Ethics Education in Accounting Curriculum
Saeed Jabbarzade Kangar Lue (IAU of Urmia, Iran), Akbar Pourreza Soltan Ahmadi (IAU of Salmas, Iran)

The Use of Reflective Learning Journals as a Learning and Assessment Method within an Entry Level Tertiary Accounting Paper
Louise MacKenzie (University of Otago, New Zealand), Malcolm Smith (Curtin University, Australia), Phil Ross (University of Western Sydney, Australia)

2.2 Management Accounting   **Room 2**
Moderator: Bülend Terzioğlu, Australian Catholic University, Australia

Production Costs And Cost Management Practices Of Turkish Manufacturing Companies (ici 500): A Descriptive Study
Yusuf Ağ (Bozok University, Turkey), Murat Kocsoy (Bozok University, Turkey)

The Effects of Management Demography on Auditor Choice and Earnings Management: Evidence from China
Leung Tak Yan (City University of Hong Kong, Hong Kong), Louis T. W. Cheng (Hong Kong Polytechnic University, Hong Kong)

The Effects of Strategy-Control System Misfits on Firm Performance

Lindawati Gani (Universitas Indonesia, Indonesia), Johnny Jermias (Simon Fraser University, Canada)

2.3 Earnings Management   Room 3
Moderator: Chee Meng Yap, National University of Singapore, Singapore

Reporting Comprehensive income and Managerial Behavior in Japan
Miho Nakamura (Oita University, Japan)

The Effect of Corporate name change on the Earnings Management in KOREA
Soon Suk Yoon (Chonnam National University, South Korea), Min Kyong Park (Chonnam National University, South Korea)

The Effect of Earnings Management through Real Activities on Future Operating Performance (Empirical Evidence from Manufacturing Firms Listed in Indonesia Stock Exchange)
Sylvia Veronica Siregar (University of Indonesia, Indonesia), Rizqa Liaviani Afif (University of Indonesia, Indonesia)

2.4 Capital Markets   Room 4
Moderator: Sudi Apak, Beykent University, Turkey

Life after IPO: Financing and Investing Activities of New Public Listed Firms in Indonesia
Dezie L. Warganegara (BINUS University, Indonesia), Josephine Nicole (BINUS University, Indonesia)

Market Reaction to the Announcement of Related Party Transactions
Sidharta Utama (Fakultas Ekonomi Universitas Indonesia, Indonesia), Cynthia A. Utama (Fakultas Ekonomi Universitas Indonesia, Indonesia), Rafika Yuniasih (Fakultas Ekonomi Universitas Indonesia, Indonesia)

Private Information Arrival at Indonesia Stock Exchange, Reality or Imaginary? U-Shaped Return Variance Curve Verification
Setiyono Mihardjo (Universitas Gadjah Mada, Indonesia), Sumiyana (Universitas Gadjah Mada, Indonesia)

2.5 Corporate Governance   **Room 5**
Moderator: Rokiah Ishak, Universiti Utara Malaysia, Malaysia

Corporate Governance and Performance of the Listed Companies in TSE
Vida Mojtahedzadeh (Al-Zahra University, Iran), Seyed Hossein Alavi Tabari (Al-Zahra University, Iran)

Corporate Governance and Board Performance: Evidence from Public Listed Companies in Malaysia
Hasnah Kamardin (Universiti Utara Malaysia, Malaysia), Hasnah Haron (Universiti Sains Malaysia, Malaysia)

Relationship Between Directors' Bonus and Shareholders' Value: A View from Corporate Governance
Zubaidah Zainal Abidin (Universiti Teknologi MARA), Akhma Adlin Khalid (Telekom Malaysia Berhad)

2.6 Research Forum   **Room 6**
Moderator: TBD

16:00 PM – 16:30 PM
Coffee Break

16:30 PM – 18:00 PM
Concurrent Sessions

Session 3.1: Financial Reporting   **Room 1**
Moderator: Sumiyana, Universitas Gadjah Mada, Indonesia

Risk Relevance of Accounting Variables
Vida Mojtahedzadeh (Al-Zahra University, Iran), Rahele Homayouni Rad (Al-Zahra University, Iran)

Comparison of the Value Relevance between the Purchase and Rental Treatment of Leases

Eiko Sakai (Musashi University, Japan)

M&A goodwill accounting: "Those are my principles, and if you do not like them..."
Humberto R Ribeiro (Bragança Polytechnic Institute, Portugal)

3.2 Management Accounting   **Room 2**
Moderator: Leung Tak Yan (City University of Hong Kong, Hong Kong

Transfer pricing in service organizations: An Australian perspective
Bülend Terzioğlu (Australian Catholic University, Australia), Robert Inglis (RMIT University, Australia), Robert Clift (RMIT University, Australia)

CEO Compensation and Firm Performance: An Australian Perspective
Cathryn Harris (University of Adelaide, Australia), Siti Seri Delima Abdul Malak (University of Adelaide, Australia)

3.3 Earnings Management   **Room 3**
Moderator: Sylvia Veronica Siregar, University of Indonesia, Indonesia

The Managers' Strategic Choice for Earnings Management: Real and/or Discretionary Accruals-Based Earnings Management
Yeonhee Park (SungKyunKwan University, South Korea), In Man Song (SungKyunKwan University, South Korea), Kaywon Lee (Chosun University, South Korea)

Earnings Management by Means of Changes in Accounting Entities Case Study
Yoshihiro Tokuga (Kyoto University, Japan), Toshitake Miyauchi (Kyoto University, Japan)

3.4 Capital Markets   **Room 4**
Moderator: Hitoshi Takehara, Waseda University, Japan

Properties of Financial Analysts' Earnings Forecast Variance in Good-News and Bad-News Environments: Theory, Evidence and Usefulness
Praveen Sinha (California State University at Long Beach, USA), Pradyot Sen (University of Cincinnati, USA), Davit Adut (University of Cincinnati, USA)

Public Disclosure, Private Information, and Investment Efficiency
Yoshikazu Ishinagi (Nagoya University of Commerce and Business, Japan), Atsushi Shiiba (Osaka University, Japan), Hiroji Takao (Osaka University, Japan)

Performance Evaluation Of Turkish Pension Mutual Funds Using Morningstar-Star Rating System
Sudi Apak (Beykent University, Turkey), Kamer Hagop Taşçıyan (Turkey)

3.5 Corporate Governance **Room 5**
Moderator: Mazlina Mustapha, Universiti Putra Malaysia, Malaysia

Remuneration Committee, Ownership Structure and Pay-For-Performance: Evidence from Malaysia
Wan Nordın Wan Hussin (Indonesia), Basariah Salim (Malaysia)

The impact of corporate governance mechanism on performance in emerging market (Evidence from Tehran Stock Exchange (TSE) Hossein Fakhari (Mazandaran University, Iran), Abbas Ali Daryaee (Mazandaran University, Iran), Jean-Claude Cosset (HEC Montreal, Canada)

Investigating the joint effects of strategy, environment and control structure
Lindawati Gani (Universitas Indonesia, Indonesia), Johnny Jermias (Simon Fraser University, Canada)

3.6 Research Forum **Room 6**
Moderator: TBD

18:00 PM – 20.00 PM
Welcome Reception

Tuesday, November 17, 2009

9:30 AM – 10.00 AM
Registration

10:00 AM – 11:30 AM
Concurrent Sessions

Session 4.1: Financial Reporting   Room 1
Moderator: Akihiro Noguchi, Nagoya University, Japan

Comprehensive Evaluation of the Policy Implementation of Guidelines for the Presentation and Disclosure of issuers and Public Companies' Financial Statement
Sylvia Veronica Siregar (University of Indonesia, Indonesia), Yan Rahadian (University of Indonesia, Indonesia), Ira Annisa Abdullah (University of Indonesia, Indonesia)

Determinants and Earnings Quality of the Voluntary Filers of XBRL in Korea
Ho Young Lee (Yonsei University, South Korea), Yun Sung Koh (Yonsei University, South Korea), Chaewon Esther Ra (Yonsei University, South Korea)

4.2 Islamic Accounting, Banking and Finance   Room 2
Moderator: Permata Ulfah , Sudirman State University, Indonesia

Accounting and Accountability in Islamic Religious Based Organizations: The Case of Pesantren in Indonesia
Siti Nabiha Abdul Khalid (Universiti Sains Malaysia, Malaysia), Hasan Basri (Universitas Syiah Kuala, Indonesia)

The ideal Shariah Audit For Islamic Financial Institutions (IFIS).. Perceptions of Accounting Academicians, Audit Practitioners and Shari'Ah Scholars in Malaysia

Ratna Mulyany (International Islamic University, Malaysia), Shahul Hameed Hj. Mohamed Ibrahim (International Center for Education in Islamic Finance, Malaysia)

4.3 Corporate Finance   **Room 3**
Moderator: Mohammed Hudaib, University of Essex, UK

The Cost of Equity Effects of Accruals Quality and Ownership Structure
Radziah Abdul Latiff (Universiti Kebangsaan, Malaysia), Fauziah Md Taib (Universiti Sains Malaysia, Malaysia)

The Effect of Managerial Ownership on the Cost of Debt: Empirical Evidence from Japan
Akinobu Shuto (Kobe University, Japan), Norio Kitagawa (Kobe University, Japan)

Financing alternatives and incentives for renewable energy, from the view point of Turkey's membership to the EU
Cem Berk (Marmara University, Turkey)

4.4 Capital Markets   **Room 4**
Moderator: Carsten Winkler, Heinrich-Heine-Universität Düsseldorf, Germany

The Effect of Foreign Ownership on the Association of Dividend Changes and Future Earnings
Hye Jeong Nam (Dongguk University, South Korea), Tae Goo Kang (Rutgers University, USA), Chang Woo Lee (Seoul National University, South Korea)

The impact of Block-holder Ownership, Firm Size and Level of Competition on Financial Disclosure of Manufacturing Companies Listed in the indonesia Stock Exchange
Cynthia Afriani Utama (University of Indonesia, Indonesia), Thomas D. Susmantoro ((University of Indonesia, Indonesia)

The impact Of Smoking Ban Fatwa On Indonesian Tobacco's Company: Evidence From Stock Market Return
Gatot Soepriyanto (Binus University, Indonesia), Paulina Santoso (Binus University, Indonesia)

4.5 Corporate Governance   **Room 5**

Moderator: Yuri Biondi, Preg CRG – Ecole Polytechnique, France

The Role of Corporate Governance in Controlling Related Party Transaction
Sidharta Utama (University of Indonesia, Indonesia), Winda Damaiyanti Hutapea (University of Indonesia, Indonesia)

The influence of Board and Ownership Structure on Pay Performance Based and Non-Pay Performance Based Companies in Malaysia
Basariah Salim, Wan Nordin Wan Hussin

Impact of Accounting Reforms, CG Compliance Reporting and Disclosure intensity on Value Relevance of Accounting Numbers in ISE
Mine Aksu (Sabancı University, Turkey), Can Simga Mugan (*Middle East Technical University, Turkey),* Ayse Tansel Cetin (*Gebze Institute of Technology, Turkey)*

4.6 Research Forum   **Room 6**
Moderator: TBD
11:30 AM – 12:00 AM
Coffee Break

12:00 AM – 13:30 PM
Concurrent Sessions

Session 5.1: Financial Reporting   **Room 1**
Moderator: Sylvia Veronica Siregar, University of Indonesia, Indonesia

The Effects of Transparency and Disclosure on Firm Performance: The Case of SET 100 Thailand
Suchada Jiamsagul (University of Technology Mahanakorn, Thailand)

Risk Signal, Financial Derivatives Transactions and the Indonesian GAAP
Hilda Rossieta (University of Indonesia, Indonesia)

Audit Committee Attributes, Financial Distress and the Quality of Financial Reporting in Malaysia
Wan Nordin Wan-Hussin (Universiti Utara Malaysia, Malaysia), Noor Marini Haji-Abdullah (Universiti Utara Malaysia, Malaysia)

5.2 Islamic Accounting, Banking and Finance   **Room 2**
Moderator: Cynthia Afriani Utama, University of Indonesia, Indonesia

The impact of Ruhiyah Aspect on the Assessment of Financial Performance Health on Bmts in Residency of Banyumas, Central Java, Indonesia
Muhammad Akhyar Adnan (International Islamic University Malaysia, Malaysia), Permata Ulfah (Sudirman State University, Indonesia)

Converting a Conventional Brokerage House into an Islamic One (An Application to the Turkish Market)
Sinan Okumuş (Marmara University, Turkey)

Waqf accounting and the construction of accountability
Hidayatul Ihsan (Padang State Polytechnic, Indonesia)

5.3 Social and Environmental Accounting   **Room 3**
Moderator: Aim-orn Jaikengkit, Chulalongkorn University, Thailand

Should Corporate Social Responsibility Become Mandatory? A View from Indonesian investor
Gatot Soepriyanto (Binus University, Indonesia), Rudy Suryanto (Universitas Muhammadiyah Yogyakarta, Indonesia)

Revisiting the Relationship between Corporate Social Responsibility and Corporate Financial Performance: Korean Evidence
Jong-Seo Choi (Pusan National University, South Korea), Young-Min Kwak ((Pusan National University, South Korea)

How does Corporate Governance affect the Disclosure Practices of Environmental Information?

Yong-Ki Jung (Chonnam National University, South Korea), Sun-Hwa Kim (Chonnam National University, South Korea), Won-Sin Kim (Chonnam National University, South Korea)

5.4 Capital Markets **Room 4**
Moderator: Somchai Supattarakul, Thammasat University, Thailand

Tunneling, Overlapping Owner, and Investor Protection: Evidence from Merger and Acquisition in Asia
Mas'ud Machfoedz, Sumiyana (Universitas Gadjah Mada, Indonesia), Ratna Candra Sari

The Association between Financial Characteristics and Capital Market Regulatory Non-Compliance
Ainun Na'im (Universitas Gadjah Mada, Indonesia), Rida Prihatni (Universitas Negeri Jakarta, Indonesia)

The role of Self-Accounting and Financial Capability in consumer credit decisions
Umberto Filotto (University of Rome, Italy), Gianni Nicolini (University of Rome, Italy)

5.5 Corporate Governance **Room 5**
Moderator: Mine Aksu, Sabancı University, Turkey

Corporate Citizenship and Corporate Governance
Müberra Yüksel (Kadir Has University, Turkey)

The impact of corporate governance practices and performance measurement systems on firm value in emerging markets
Elaine Yen Nee Oon (University of Malaya, Malaysia)

5.6 Research Forum **Room 6**
Moderator: TBD

13:30 PM – 14:30 PM
Lunch Break

14:30 PM – 16:00 PM
Concurrent Sessions

Session 6.1: Financial Reporting   **Room 1**
Moderator: Wan Nordin Wan-Hussin, Universiti Utara Malaysia, Malaysia

Equity Recognition
Akihiro Noguchi, (Nagoya University, Japan)

Reporting financial ratios in annual reports: Voluntary disclosure perspective
Greg Tower (Curtin University of Technology, Australia), Norhani Aripin (Curtin University of Technology, Australia),
Grantley Taylor (Curtin University of Technology, Australia)

Evaluation of Indonesian Local Government Financial Disclosure Level Year 2007
Nanda Ayu Wijayanti (University of Indonesia, Indonesia), Yan Rahadian (University of Indonesia, Indonesia), Sylvia
Veronica Siregar (University of Indonesia, Indonesia)

6.2 Auditing   **Room 2**
Moderator: Gatot Soepriyanto, Binus University, Indonesia

Corporate Governance Quality, Audit Fees And Non-Audit Services Fees
Mohammed Hudaib (University of Essex, UK), Mahbub Zaman (University of Manchester, UK), Roszaini Haniffa (Bradford
University, UK)

Measurement of Audit Quality through Real-Activity Earnings Management
Hyuk Shawn (Syngkyunkwan University, South Korea), Hyoik Lee (Syngkyunkwan University, South Korea), Sanghyuk
Moon (Yeungnam University, South Korea)

6.3 Social and Environmental Accounting   **Room 3**
Moderator: Noriah Che-Adam, Universiti Utara Malaysia, Malaysia

Ethical Values and Corporate Social Responsibility in Indonesia: An Exploratory Study
Ainun Na'im (Universitas Gadjah Mada, Indonesia)

Stakeholder Engagement: The Relationship between Corporate Social Responsibility, Corporate Strategy and Financial Performance in Australian Firms
Cathryn Harris (University of Adelaide, Australia), Ainul Huda Jamil (University of Adelaide, Australia)

6.4 Capital Markets   **Room 4**
Moderator: Hye Jeong Nam, Dongguk University, South Korea

Empirical Evidence on Management Forecast Disclosures in Thailand
Somchai Supattarakul (Thammasat University, Thailand), Sirada Jarutakanont (Thammasat University, Thailand)

Is an Event Responded by Investors as a Non-event? Inquisitive Evidences When Differentiated between Foreign and Domestic Investors' Reactions
Bambang Riyanto LS (Universitas Gadjah Mada, Indonesia), Sumiyana (Universitas Gadjah Mada, Indonesia)

Evidence on How Firms Combine Dividend Payouts and Share Repurchase Payouts in the Bursa Malaysia
Mohamad Jais (University Malaysia Sarawak, Malaysia), Bakri A. Karim (University Malaysia Sarawak, Malaysia), Azlan Zainol Abidin (University Utara Malaysia, Malaysia), Ayoib Che Ahmad (University Utara Malaysia, Malaysia), Kamarul Bahrain Abdul Manaf (University Utara Malaysia, Malaysia)

6.5 International Accounting   **Room 5**
Moderator: Masako Saito, Osaka Sangyo University, Japan

Japanese Responses to the Exposure Draft on the Conceptual Framework of Financial Accounting by IASB/FASB: The international Comparison
Michimasa Satoh (Nagoya University, Japan), Aprilia Beta Suandi (Gadjah Mada University, Indonesia)

An international institutional Comparative Analysis of the Chinese Approach to Accounting for Business Combinations
Yuri Biondi (Preg CRG – Ecole Polytechnique, France), C. Richard Baker (Adelphi University, USA), Qiusheng Zhang (Beijing Jiaotong University, China)

Is the capitalization of development costs according to IAS 38 really consistent with the framework?
Carsten Winkler, (Heinrich-Heine-Universität Düsseldorf, Germany), Torsten Mindermann (Heinrich-Heine-Universität Düsseldorf, Germany), Nadine Walther (Technische Universität Ilmenau Postfach, Germany)

6.6 Research Forum   **Room 6**
Moderator: TBD

16:00 PM – 16:30 PM
Refreshment Break

16:30 PM – 18:00 PM
Concurrent Sessions

Session 7.1: Financial Reporting   **Room 1**
Moderator: Norhani Aripin, Curtin University of Technology, Australia

The influence of company characteristics on corporate reporting on the internet by Turkish listed firms
Ali Uyar (Fatih University, Turkey)

Roadmap to Future Mandatory Application of IFRS in Japan—from the perspective of financial statements preparers
Yao Jun (Kobe University, Japan), Hu dan (Nagoya University, Japan), Chitoshi Koga (Kobe University, Japan), Norio Igarashi (Yokohama National University, Japan)

Company Characteristics, Dominant Personalities in Board Committees and internet Financial Disclosures by Malaysian Listed Companies
Mustafa Mohd Hanefah (Universiti Sains Islam Malaysia, Malaysia), Ali Saleh Alarussi (Universiti Sana'a, Yemen)

Session 7.2: Other Issues in Accounting   **Room 2**
Moderator: Hilda Rossieta, University of Indonesia, Indonesia

Tax Knowledge Dimensions under Self Assessment System in Malaysia
Noraza Mat Udin (Northern University of Malaysia, Malaysia), Kamil Md Idris (Northern University of Malaysia, Malaysia), Hajah Mustafa Mohd Hanefah (Islamic Science University of Malaysia, Malaysia)

Using Mathematics to Teach Accounting Principles
Sony Warsono (Universitas Gadjah Mada, Indonesia), Arif Darmawan (Cherry Corner, Yogyakarta, Indonesia), Muhammad Arsyadi Ridha (Cherry Corner, Yogyakarta, Indonesia)

Family Succession and Performance among Malaysian Companies
Noor Afza Amran (Universiti Utara Malaysia, Malaysia), Ayoib Che Ahmad (Universiti Utara Malaysia, Malaysia)

7.3 Social and Environmental Accounting   **Room 3**
Moderator: Cathryn Harris, University of Adelaide, Australia

Determinants of Nonreporting of Social and Environmental information by Malaysian Companies: Empirical Evidence from the Perspective of Proprietary and Information Costs
Noriah Che-Adam (Universiti Utara Malaysia, Malaysia), Lian Kee Phua, Fauziah Md Taib

Environmental Disclosure, Corporate Characteristics, and Firm Performance: Evidence from Thailand
Aim-orn Jaikengkit (Chulalongkorn University, Thailand), Duangmanee Komaratat (Chulalongkorn University, Thailand), Nopmanee Tepalagul (Chulalongkorn University, Thailand)

7.4 No session in this room   **Room 4**

7.5 International Accounting   **Room 5**

Moderator: Somchai Supattarakul, Thammasat University, Thailand

Present Value and Historical Cost Accounting: Toward the Global Convergence and Reconciliation Process in Japan
Noriyuki Tsunogaya (Kyushu University, Japan), Hiromasa Okada (Nagasaki University, Japan), Hiroshi Yoshimi (Hokkaido University, Japan)

The Effect of IFRS Implementation on Earnings Quality: Case in Japan and Indonesia
Masako Saito (Osaka Sangyo University, Japan), Sekar Mayangsari (Trisakti University, Indonesia)

Accounting Conservatism and Future Bad News: The Case Od Singapore And Pakistan
Zuhrohtun, SE, M.Si (Universitas Pembangunan Nasional "Veteran", Indonesia)

**7.6	Research Forum	Room 6**
Moderator: TBD

17:30 PM – 18:30 PM
Annual General Meeting

18:30 – 24:00 PM
Conference Dinner

RESEARCH FORUM PAPERS

Board Independence, Ownership Structure, Audit Quality And income Smoothing Activities
Nooriha Mansor (Universiti Teknologi MARA, Malaysia), Ayoib Che Ahmad (Universiti Utara, Malaysia)

Differences and the Factors of Convergence of Management Accounting Systems in Developed and Less Developed Countries
Gohar Saleem Parveiz (Institute of Management Sciences, Pakistan), Owais Mufti (Qurtaba University of Science and Information Technology, Pakistan),

E-Learning Model to Optimized Learning in Higher Education Using Dick and Carey Design Approach
A.A. Gde Satia Utama (Airlangga University, Indonesia), Khusnul Prasetyo (Airlangga University, Indonesia)

Harmonization of accounting standards and extension of extensible business reporting language (XBRL)
Saeed Jabbarzadeh Kangarlue (Islamic Azad University of Urmia, Iran), Akbar Pourreza Soltan Ahmadi (Islamic Azad University of Salmas, Iran)

Islamic view of accounting and new theories
Yaghoub Aghdam ((Islamic Azad University, Iran)

Issues of Financial Literacy and Superannuation
Ide Clinton (Australian Catholic University, Australia)

Leasing in Transitional Countries –Ccase of B&H
Maja Letica (University of Mostar, Bosnia and Herzegovina), Mirela Mabic (University of Mostar, Bosnia and Herzegovina), Jelena Brkić (University of Mostar, Bosnia and Herzegovina)

Materiality disclosure thresholds and decision-making for environmental events
Jeffrey Faux (Victoria University, Australia)

Mathematics in Accounting as a Big Unanswered Question
Sony Warsono (Universitas Gadjah Mada, Indonesia), Arif Darmawan (The Accounting Division of Accounting Corner, Indonesia), Muhammad Arsyadi Ridha (The Accounting Division of Accounting Corner, Indonesia)

Revisions of Management Forecasts and Earnings Management under the Toyota Production System in the Japanese Automobile Industry

Michio Kunimura (Meijo University, Japan), Mitsuru Kubo (Meijo University, Japan)

The Development And Evaluation Of intellectual Capital Index in Malaysia
Shamsuddin Amanuddin (Universiti Tenaga Nasional, Malaysia)

The Effect of Financial Crisis at Korean Stock Market
Jang Hee Lee (Dongseo University, Japan)

The Predictive Ability of Accrual Models with Respect to Future Cash Flows
Yasushi Yoshida (Chiba University of Commerce, Japan)

Transparency Reports and the Perception They Create On the Audit Profession – Case Of the Republic Of Macedonia
Zorica Bozinovska Lazarevska (University Ss Cyril and Methodius, Republic of Macedonia), Stolevska Maja (State Audit Office, Republic of Macedonia)

Triple Entry Accounting and its Metaphors Reconsidered
Gabriel Donleavy (University of Western Sydney, Australia)

Voluntary Disclosure on R&D Projects
Carsten Winkler (Heinrich-Heine-Universität Düsseldorf, Germany), Daniela Hochstein (Heinrich-Heine-Universität Düsseldorf, Germany), Torsten Mindermann (Heinrich-Heine-Universität Düsseldorf, Germany)

The Evaluation of Bank Network Role in Economic Growth Case Study of Golestan Province in Iran
Parviz Saidi (Islamic Azad University, Aliabad Katool Branch, Iran), Seyyed Hassan Seyyed Rezaie (Islamic Azad University, Aliabad Katool Branch, Iran)

Identifying Production Capacity of Food Industries Aiming at Finding Out Their Missing Link
Ahmed Sarani (Islamic Azad University, Iran), Zahra Nejad Akbari (Amoozesh va parvarsh, Iran)

Session 1.1: Accounting Education

ACCOUNTING TECHNICIANS' CAPABILITIES: THE EMPLOYER AND STUDENT PERSPECTIVES

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ABSTRACT

As accountants face pressure from a skills shortage, increasing regulation and a widening range of services to clients, professional bodies are paying more attention to paraprofessionals, the accounting technicians (ATs). This group of paraprofessionals, many of whom are not affiliated to a professional body, has a worldwide presence and is perceived to be an increasingly valuable part of the accounting services supply chain. As such, improving the credentials of this group may be seen as a way of legitimising their role in the provision of accounting services. With a rapidly growing paraprofessional sector, the profession has a responsibility to ensure that AT entry requirements, that is, AT education and training, are relevant and set at an appropriate level. In particular, the competence, skills and integrity of this group need to meet the expectations of the public, employers and the profession.

This paper reports the results of an opinion survey of New Zealand ATs and their employers on the relevance of AT skills, attributes and knowledge in their work environment. The findings suggest that although ATs perform a variety of technical tasks in the workplace, the employers tend to consider an AT's integrity, communication, and problem solving skills to be more important than their technical skills. Further, the ATs found that many of the key skills, attributes and areas of knowledge identified as being important to their work activities, were not adequately covered in their formal education. The findings also suggest that more ATs are electing to complete a degree in accountancy. All these may have implications for the traditional sub-degree diploma route, and the positioning of ATs in the profession.

Keywords: accounting technicians, accounting profession, admission policies, competence

INTRODUCTION

Professions are an integral part of society. The accounting profession, as one of the so-called "elite" professions, is a critical and indispensable element in any economy depending on private capital. Over the years, the accounting profession has attempted to maintain its relevance in light of the rapid changes in the business environment. However, with increasing demands for accounting services, it is facing a skills shortage with paraprofessionals, namely, accounting technicians (ATs), working in supporting roles of accounting services. Some of these paraprofessionals are affiliated to a professional body while others are not.

A growing para-professional sector in accounting raises questions of quality for the profession. In the last few decades, attempts have been made by the UK, Australia and New Zealand professional accounting bodies to legitimise the supporting role of accounting personnel. To ensure that the quality of work of the accounting technicians is acceptable to the employers and does not erode the image of the profession, it is the responsibility of the accounting profession to oversee the entry requirements of this group - whether the entry academic requirements are relevant to the changing environment, and whether their levels of competence, skills and integrity meet the expectations of the public, employers and the profession. The interaction between employers, educators and other members of the profession is complex but important as this can have major impact on educational programmes and professional admission policies. However, very little research has been conducted on this group despite the increasing contribution they make to the business sector and accounting services in particular. In New Zealand, the accounting technician qualification and curriculum have not been validated over the last decade even though an Associate Chartered Accountants (ACA) designation was reintroduced in November 2006. International interest in accounting education has typically focused on the chartered accountancy (CA) level of the profession. In view of this situation, this paper examines what is traditionally considered the accounting paraprofessionals - the accounting technicians in the New Zealand context. More specifically, it aims to survey both ATs and their employers to ascertain whether the current academic requirements for New Zealand ATs meet the needs of their workplace.

The paper is structured as follows. As a backdrop, section one describes the role of the accounting technician by highlighting the differences between professions and paraprofessions in general and in accountancy in particular. Section two reviews the current development of accounting technicians in New Zealand. Section three examines the required skills, attributes

and knowledge of accounting technicians. Section four explains the research design. Section five discusses and analyses the results of the survey before drawing some conclusions in the final section.

THE ROLE OF THE ACCOUNTING TECHNICIAN

The concept of the technician is not new to professions. The accountancy profession has employed personnel in technician type of jobs for many years. The formal recognition of their existence by established professional bodies, however, is a relatively recent development. By legitimizing their existence, the professional bodies have assumed some control over the group, including the type and standard of work they do. In order to understand the different roles between the professional accountant and the accounting technician, it is necessary to examine the different roles and rules of the two groups.

Professions and paraprofessions

Over the years, social scientists such as Abbott (1988), Emmet (1966), Greenwood (1966), Larson (1977) and Moore (1970) have studied the professions and compiled lists of specific observable professional attributes. Although the lists can vary from one scientist to another, the systematised views of professions tend to share some common characteristics as identified by Larson (1977, p.208): professional association, cognitive base, institutionalized training, licensing, work autonomy, colleague "control", and code of ethics. Implicit in these attributes is the notion of a standard of professional performance supported by a sense of integrity, whereby professional members have a fiduciary trust to maintain in carrying out functions valued in the society.

The sociology of the professions also reveals that they are normally characterised by minute division of labour based on technical specialisation - some form of social differentiation or stratification. This division of labour is "organized into a hierarchy of authority, established and enforced by law, and swinging around the dominant authority and responsibility" (Freidson, 1970, p. 76). For instance, the "paramedical" such as nurses and paramedics are part of a division of labour of the medical profession. They are subordinate members of the medical division of labour and are clearly in a markedly different position from the physicians. Even though sometimes they call themselves and are perceived by others as "professions," they are not the equals of physicians since they do not possess the same autonomy of physicians and therefore cannot be classified as the same type of occupation as physicians. In short, they "are

specifically and generically occupations organized around a profession – paraprofessional occupations" (Freidson, 1970, p.76). It can therefore be explained that, paraprofessions, given their proximity to a profession, are encouraged to take on professional attributes and to claim to be a profession. It might also be noted that paraprofessional occupations usually seek professional status by creating many of the same institutions as those which possess professional status. They develop a formal standard curriculum of training, use theory to teach recruits, issue codes of ethics, and are prone to seek support for licensing or registration so as to exercise some control over who is allowed to do their work. This in itself makes a distinct species of occupation or profession, but whatever the claim, they do not stand in the same structural position as the profession on which they model themselves because their autonomy is limited by the dominant profession (Freidson, 1970).

Accounting technicians as supporting personnel

In accounting, this paraprofessional group is represented by the accounting technicians (AT). Here, social differentiation and stratification between the roles of the professional (chartered) accountant and accounting technician is discernible from the definition provided by the International Federation of Accountants (IFAC) Taskforce on the Role of Accounting Technicians (1994):

> [They] differ from the other staff in other forms of accountancy training in that they are specifically trained as support staff; they are almost always working under the supervision and control of accountants; they are skilled in the technique of accountancy and computing as technicians; the most able of them can and do progress, if suitably motivated, to qualify as accountants. They differ from accountants in that they start training younger and without the necessary entry qualifications for an accountancy qualifications; if involved in decision-making at all, they are supervised and deal with less complex and technical financial decisions whilst providing a service to accountants; they produce the financial statements and accounts which are then used and interpreted by accountants according to the rules set by accountants. (p.2)

This elucidation complements an earlier IFAC publication – International Education Guideline 9 (IEG9) (IFAC, 1987b), which states that professional accountants ought to be professionally competent, that is, they must have the required knowledge, the ability to apply that knowledge to practical problems and also have a professional approach to their work. The accounting technician, on the other hand, has the skills at a technical level in specific areas of accounting, without necessarily the knowledge, skills and ability to handle general problems at a professional level. In short, accounting technicians provide ancillary and complementary

services as support to an accountant's wider and more comprehensive role. In this role, they may not be required to have the same levels of understanding and application as that of professional accountants. However, their job certainly involves a higher level of responsibility than does a purely routine clerical job (IFAC, 1987a). They help to increase efficiency by relieving qualified accountants of the routine and detailed tasks so that they can devote more time to tasks that require higher level of expertise.

Undoubtedly these IFAC documents have provided guidance to its member professional bodies in their designation of the accounting technician. For instance, in the UK, accounting technicians are defined as "the second tier of the accountancy profession, responsible for bookkeeping rather than accountancy functions (Evans, 1993, p.56). They work at all levels of finance from accounts clerk to financial controllers in all industries and sectors and in large and small organisations. The Institute of Accounting Technicians in Ireland (IATI) describes its members as "persons who have acquired training, experience and knowledge that will enable them to work at middle management level and to provide support services for senior management (1995, p.2). In Australia, accounting technicians "work in all levels of finance and accounting and fulfil roles from accounts staff to finance or office managers[1]"(AAT Australia, 2008). In New Zealand, accounting technicians are defined as "para-professionals skilled in providing support services for professional accountants and senior management in their organisations" (NZSA, 1995, p.81). The group is sometimes referred to as middle-level accountants who are skilled in the practical aspects of accounting and information systems and are adept at the finance/accounting function such as recording transactions, preparing accounts and statements, providing financial and management information, managing accounting systems, and establishing taxation liabilities, etc. (Franks, 1996, p.60).

Professional affiliations

To protect their own interests and to show commitment to high standards, professionalism, recognition and status befitting accounting paraprofessionals, accounting technicians have organised themselves into professional associations with the support of the established accounting bodies. To date, the largest body of accounting technicians is the Association of Accounting Technicians (AAT) in the UK with over 100,000 members worldwide (AAT Review, 2007). The Association, which is sponsored by the Chartered Institute of Public Finance and

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[1] These include accounts payable officer/clerk, accounts receivable officer/clerk, payroll officer/clerk, finance manager, finance assistant, assistant accountant, bookkeeper, trainer accountant. Reconciliation officer/clerk.

Accountancy (CIPFA), the Institute of Chartered Accountants in England & Wales (ICAEW), the Chartered Institute of Management Accountants (CIMA), and the Institute of Chartered Accountants of Scotland (ICAS), states that it is committed to developing amongst its members a high standard of competence, and providing professional development opportunities for them in achieving this objective. The members are bound by professional ethics and disciplinary procedures as the basis of maintaining public confidence. Other AT professional bodies such as the Association of Chartered Certified Accountants (ACCA), the Institute of Accounting Technicians in Ireland[2] (IATI), AAT Australia[3] and the AT college of the New Zealand Institute of Chartered Accountants (NZICA) have adopted similar mission and objectives. The statement put forth by the IATI in its website (2008, www.iati.ie/index) can be regarded as a fair representation of the mission of accounting technicians:

> … to serve the interests of our members, our students, the accountancy profession, the business community and the wider public by providing an accounting technician qualification of recognised international standard, by promoting the highest educational, technical and ethical standards, and by providing our members with opportunities for realising their potential and advancing their careers through continuing education and lifelong learning.

the AAT has since 1992 started to recruit members through a competence-based scheme to ensure that the assessment requirements are not restricted to the examination of acquired knowledge but encompass the full range of competences required of accountancy personnel in the workplace. Currently, it offers two basic pathways to the AAT qualification: the National Vocational Qualifications (NVQs)/Scottish Vocational Qualifications (SVQs) which is workplace-based, and the Diploma pathway which involves full or part-time study at a College or training centre in addition to one year's work experience (www.aatglobal.com/Structure.htm# Pathway/, 20 May 2007). The ACCA, a member of the AT network, offers a Certified Accounting Technician (CAT) designation which has both examinations and practical experience requirements. Candidates can study full or part-time at a college, or training centre and by distance learning or online, then sit the examinations and keep a training record of at least one year's practical accounting experience. Similar to its UK counterparts, AAT Australia recruits members through examinations and practical experience requirements. Candidates can also acquire the AAT Australia qualification through the skills assessment process conducted by Accounting Education Australia (AEA), a quality endorsed registered training organisation which

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[2] It has a partner body in the Institute of Chartered Accountants in Ireland (ICAI).
[3] It is supported by CPA Australia, the Institute of Chartered Accountants in Australia (ICAA) and the National Institute of Accountants (NIA).

provides individuals with the opportunity to benchmark their current skills and competencies. All these routes do provide opportunities for the ATs to continue their study and training to become professional accountants.

THE NEW ZEALAND SITUATION

In New Zealand, an Accounting Technician (AT) College was introduced in 1995 as part of the New Zealand Institute of Chartered Accountants (NZICA)[4]. The inclusion of the AT professional qualification was a reflection of the New Zealand professional bodies' initiative to follow current education trends in the profession as recommended by Lothian and Marrian (1992), the IFAC's International Education Guideline 9, and the AT structure that existed within the profession in the United Kingdom (Maltby, 1996). Admission to the AT College is a four-year process that includes three qualifying components: (1) two years of academic study; (2) one year of general practical experience and one year of specified practical experience under the oversight of an Institute-registered member; and (3) a professional competence programme which involves passing a Professional Competence Examination (Institute of Chartered Accountants of New Zealand, 2002).

The academic requirement can be acquired by completing the New Zealand Diploma in Business (NZDipBus)[5], which is currently offered by New Zealand polytechnics, some private training organisations, and until recently, two universities. The NZDipBus is a two-year full time programme consisting of twelve papers. In order to fulfil the academic requirements of the AT College, the following papers must be included in the NZDipBus (ICANZ, 2002, p.5):

100 Accounting Principles	140 Business Communication
101 Accounting Practices	150 Computer Concepts
110 Introduction to Commercial Law	201 Financial Accounting
120 The Economic Environment	202 Management Accounting
130 Organisation & Management	

and one of: 203 Business Finance, 205 Internal Auditing, 206 Taxation

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[4] Previously known as New Zealand Society of Accountants (NZSA) and Institute of Chartered Accountants of New Zealand (ICANZ) (since 1 October 1996). On 3 August 2005, it changed to the current title – New Zealand Institute of Chartered Accountants (NZICA).

[5] As a result of criticisms of the New Zealand Certificate in Commerce (NZCC) in the mid-1980's, a new qualification was developed - the National Certificate in Business (NCB), supported by a number of professional bodies such as the NZ Society of Accountants (NZSA) *[now the New Zealand Institute of Chartered Accountants]*, the Bankers' Institute (now the Australasian Institute of Banking and Finance) and the Institute of Chartered Secretaries and Administrators (now the Chartered Institute of Corporate Management). The first programmes were offered in 1987. In March 1995, the NCB was renamed the New Zealand Diploma in Business since the term better represents the level of the qualification (Wells, 2003, p.72).

and two optional papers, with at least one of these at 200 level

The owner of the NZDipBus, however, is the New Zealand Qualifications Authority (NZQA), a government department. It is responsible for maintaining the currency and quality of the programme. The NZQA duties range from developing course prescriptions, to managing the external moderation of the qualification to ensure a consistent quality of delivery by providers. In contrast to its accreditation review of tertiary academic programmes for the chartered accountancy qualification, NZICA neither accredits the organisations running the NZDipBus, nor produces statements of learning outcomes (SLOs) for the required AT topics in the programme. Instead, NZICA uses the broad list of outcomes for the NZDipBus as the benchmark for its AT College requirements. Nonetheless, it is noteworthy that a number of the skills and attributes of the NZDipBus graduate (such as communication skills, problem solving skills, and ethical awareness) feature in the profiling of an AT in the literature (see for example, AAT, 2002; IFAC Education Council, 1999). The NZDipBus outcomes identified by NZQA are as follows:

A graduate of the New Zealand Diploma in Business will:
1. in a range of diverse and changing organisational settings, effectively be able to:
   a. add value by applying specific business skills;
   b. apply a range of interpersonal and communication skills;
   c. apply critical problem solving skills with initiative and judgement;
   d. recognise ethical and cultural issues inherent in decision making; and
   e. work independently and within teams of diverse people.
2. have appropriate skills, research abilities and knowledge to pursue further study and professional development (NZQA, 2005).

SKILLS, ATTRIBUTES AND KNOWLEDGE REQUIREMENTS FOR ACCOUNTING TECHNICIANS

The world has been changing constantly in the last few decades. Globalisation, rapid technology development, socio-economic reforms, intense competition, proliferation of regulations, not to mention organisational restructures (Arthur Andersen et al., 1989) have huge impact on the business community. In particular, the massive expansion of the financial services sector has led to a shortage of suitably qualified finance/accounting personnel. Rapid environmental change has created new demands for a diversity of services requiring broader and more flexible skills. Concerns about accounting education have been expressed by policy makers, educators, researchers, practitioners, and the general public regarding the education

and training of such quality professionals. Calls have been made to address the decline in the quantity and quality of accounting students and the deficiencies in the curriculum and pedagogy of accounting programs. Reports into such issues have called for the introduction of competence-based accountancy programs (see AAA 1986; Arthur Andersen & Co. et al. 1989; AECC 1990; IMA 1994; and Albrecht and Sack 2000) to ensure that prospective professional accountants and their supporting personnel have the requisite skills and knowledge to meet the challenges in today's business environment.

In the skills shortage environment, accounting technicians can play an integral role in the overall business management function. However, they need to be equipped not only with core technical accountancy skills, but also vital complementary skills in areas such as IT, communication, leadership and time management" (AAT Australia, 2008), as employers tend to seek employees who are multi-skilled within their own specialist area of expertise. Possessing a variety of skills and attributes such as analytical and problem solving skills, communication (oral and written) skills, self-motivation and ethics awareness (Victoria University of Wellington, 2003) will certainly be more employable in the current environment.

 "Competence", according to the IFAC Education Committee (1998, p.1), is "the ability to perform the tasks and roles expected of a professional accountant, both newly qualified and experienced, to the standard expected by employers and the general public." Achieving this requires the cooperation of three components in three different settings: (1) educational institutions developing the necessary capabilities, (2) the workplace cultivating the practical experience, and (3) professional education programmes conducting the tests of professional competence (IFAC, 2003). As such, being "competent" is not just about being able to do a job in a given situation, but being able to transfer skills to different situations and contexts and to deal with contingencies and uncertainties (Purcell, 2001). The "competence drive" is to produce accounting graduates who are able to add value to their professional work by displaying the knowledge and ability to provide answers to the "why", "how", and "what if" questions. Implicitly and explicitly, it "encourages professional bodies and those who have a vested interest in the training of accountants to link accounting curriculums more closely with workplace requirements to help ensure that the knowledge and capabilities required of professional accountants remain relevant" (NZICA, 2003, p.53).

The IFAC guideline on the education and training of technical accounting staff (IFAC Education Committee, 1999) provides guidance on the education and training required for technical accounting staff. It highlights that:

> Technical accounting staff is the foundation of any accounting system. In many cases it is the shortage of competent staff at this level that is the main constraint in developing an effective accounting service. The design of sound education and training schemes for technical accounting staff is therefore crucial. (1999, p.9)

Since technical accounting staff work in all types of organisations in all sectors of the economy, and undertake a wide range of work from basic accounts clerk to more senior duties such as credit controller. Given the range of duties, together with the extent of change in the business environment, the Guideline states that:

> It is vital that the education and training of technical accounting staff should extend beyond developing the skills required to carry out a narrowly defined given task in a competent manner. Flexibility and the development of transferable skills are essential. Accounting tasks need to be understood in their wider business context if they are to be performed effectively… In addition to basic accounting and IT skills, competent technical accounting staff will need to be effective communicators, orally and in writing. The ability to develop effective working relationships with other members of the organisation is also important. (1999, p.5)

The competences highlighted by the Guideline closely resemble those emphasised in the major reports surrounding the calls for accounting education change at the CA level in the United States (see, for example, Arthur Anderson et.al., 1986; AECC, 1990; Albrecht & Sack, 2000). Nonetheless, accounting education, whether to produce graduates for the professional accountant career pathway or the AT route, has to maintain currency in and relevance to the nature of work demanded by the employers/workplace.

Prior Studies

Prior research conducted in New Zealand on accounting technicians has examined academic training, employer perceptions, as well as professional aspirations. Nowlan (1996) found that the educational and practical work experiences of ATs were similar internationally and the majority of ATs were satisfied that courses they had attended met their needs in the workplace and that the compulsory CPD requirement was the right move. This was supported by McIntosh (1996) in her survey of accounting technicians and employers. She found that the academic training her technician-respondents received through the New Zealand Diploma in Business (NZDipBus) was well-suited to prepare them for their workplace. She also found that small and

medium CA firms and corporate and public sector employers of accounting had expressed interest in employing ATs at their organizations. As such, she predicted that the changing nature of accounting work would affect the nature of AT's work in the future. In her survey of accounting major students from three separate NZDipBus providers, McIntosh (1997) also found that 45% of the students surveyed definitely intended joining the AT College with a further 28% considering joining. She thus concluded that many undertook NZDipBus studies to advance their career in accounting and gain membership of the AT College in particular.

Research conducted in the UK also covered similar areas but tended to focus more on the provision of the continuing professional development (CPD) component. In the late 1980s, the AAT, in conjunction with the Plymouth Business School, conducted a research surveying the views of both accounting technicians and employers on the necessity of CPD and the professional body's role in supporting this component. It was found that CPD was vital for upgrading the task role of accounting technicians and there was a very high level of consensus over priority areas for further development of technical and interpersonal skills (Chaston & Mangles, 1991). Subsequent research conducted by the AAT in 2001 showed that "96% of its full members consider continuing professional development (CPD) as very important, if not vital, to their long-term career development and employability" (AAT, 2002). The CPD programme offered to AAT members was cited as one of the main reasons people sought membership. In another AAT research study in 1998, the Association surveyed 200 UK financial directors and found that 90% commented positively on the improvement in the skills of accounting technicians over the previous five years (AAT, 1998). A 2002 AAT survey found that employers were looking for staff who not only had good technical accounting skills, but also skills in personal effectiveness, communication, time management and information technology. Furthermore, nearly 50% of the employer respondents believed CPD had improved their business, while a third claimed it had helped reduce staff turnover. CPD was also linked to lifelong learning and its associated benefits.

RESEARCH DESIGN

The aim of this research is to ascertain the extent to which the current accounting curriculum meets the needs of the accounting technician's role in the workplace. To examine whether the academic programmes the ATs complete are meeting the needs of this group of accounting para-professionals, an opinion survey of accounting technicians was conducted to determine (1) the type of duties they perform in business, (2) specific skills, attributes and areas of knowledge

important to their work, (3) the percentage of accounting technicians who have completed the NZDipBus, and (4) the papers within the Diploma that were most useful for their employment. This study also investigates the degree of importance placed on various skills, attributes, and knowledge by New Zealand employers of accounting technicians.

Sample Selection

The Institute was approached to provide the names and addresses of the last five hundred and forty members who joined the AT College. A number of members of this College who joined when it was first established in 1996, were senior employees of organisations; they had not been members of the Institute due to lack of formal qualifications (Hayes 1999). The reason for selecting the most recent members was to try to avoid including any of the members who had not gone through the normal route to membership in the sample.

Research Instrument

A mail survey was used which consisted of two different questionnaires. One questionnaire was for the accounting technician to complete, the other was for their employer. Each group was asked to complete and return their questionnaires independently. The questionnaires had two sections. The first section contained questions of a more general nature but were specific to a particular group of respondents; whereas many of the questions in the second section were common to both questionnaires. Where appropriate, a five point Likert Scale was used for scoring answers.

One hundred and seventy nine useable AT responses (response rate 33.1%) and 114 useable employer responses were received. It is not possible to measure the response rate of employers as some accounting technicians may not have given their employer the questionnaire to complete. Five surveys were returned 'no longer at this address'.

RESULTS, ANALYSIS AND DISCUSSION

Range of Duties Accounting Technicians Perform in Business

The employer responses indicate preparing financial accounts and statements, recording transactions and providing financial and management information are the tasks most commonly assigned to ATs (see Table 1). This supports Franks (1996) view of an AT's role in organisations. Approximately a third of the employer respondents involved their ATs in credit

control or auditing tasks, and only a quarter of the respondents assigned their ATs working capital management or product costing tasks.

Table 1. Duties/tasks undertaken by AT employees

Duty/task undertaken by AT employees	Percentage (%)
Preparing financial accounts and statements	92
Recording financial transactions	89
Providing financial and management information	88
Managing accounting systems	78
Payroll	63
Advising of taxation effects	62
Contributing to business planning and control	60
Implementing and supervising IT systems	50
Undertaking credit control	35
Auditing	33
Working capital management	25
Product costing	21

These results possibly reflect the respondent employer's type of organisation. Of the 114 employer responses, 62 (54.4%) were from Chartered Accounting Firms, and 52 (45.6%) from non-Chartered Accounting Firms. The industry most frequently represented within this 45.6% was "Finance, Property and Business Services" (20%).

The Chartered Accounting firms employed between two and four qualified Chartered Accountants and between two and four qualified ATs in their accounting team of between 10 to 15 people. The non-accounting firm respondents employed between five and nine accounting staff; but with no more than one qualified Chartered Accountant and/or one Accounting Technician. Further, the non-accounting employer responses indicated they assigned more varied roles, such as business planning and control and implementing and supervising IT systems, to their AT employee. Many of the AT respondents reported to a senior accountant, although the survey also revealed that some accounting technicians have sole charge over the accounting functions of the firm for which they work.

The AT respondents were asked how important certain accounting areas covered in their formal education are for their work, and how well these topics were covered in their academic study. For both questions a five point Likert Scale was used with five indicating the topic was "very important", and one "not at all important". In terms of degree of coverage, the scale varied from five "excellent coverage", to one "no coverage". The responses are summarised in Table 2.

Table 2. Topic importance and degree of coverage in formal education.

	Importance			Coverage			
	Mean	*Std Dev*	*Rank*	*Mean*	*Std Dev*	*Rank*	*% change in means*
Preparing financial stms	4.60	0.89	1	4.04	0.76	1	12%
Recording financial trans	4.46	0.95	2	3.91	0.79	2	12%
Financial analysis	4.26	0.94	3	3.77	0.91	3	12%
Internal controls	4.07	1.00	4	3.21	1.01	6	21%
Tax management	4.00	1.33	5	3.26	1.18	5	19%
Budgeting	3.93	1.15	6	3.02	0.98	7	23%
Working capital mgmt	3.42	1.28	7	2.99	1.02	8	13%
Payroll	3.36	1.23	8	2.08	1.00	11	38%
Credit control	2.98	1.24	9	2.54	1.07	10	15%
Auditing	2.84	1.34	10	2.71	1.27	9	5%
Product costing	2.77	1.25	11	3.27	0.98	4	-18%

The order of importance the AT respondents assigned to the preparation of financial statements, recording of financial transactions and financial analysis at the higher end of their ranking and auditing and product costing at the lower end, reflect the Employer respondents assignment of tasks to their AT employees (see Table 1).

However, the ATs considered working capital management more important and payroll less important than might be expected given the tasks that are typically assigned to them. In most cases the ranking of importance of an accounting area and the degree to which it was covered in formal education are similar. Product costing was the key exception, ranking eleventh in importance and fourth in coverage, suggesting an overemphasis in academic programmes relative to its importance in the work place. Notably, no topics received excellent coverage; overall the AT respondents considered the topics received fair to good coverage. Further, ten of the eleven topics scored a higher mean for importance than for coverage which is consistent with a number of accounting technicians stating that their formal academic study did not adequately prepare them for the work environment. For example, internal controls ranked fourth in importance, but only scored 'fair' in coverage.

The Skills, Attributes and Knowledge of Accounting Technicians

Both the employer and AT questionnaires listed twenty-one specific skills, attributes and areas of knowledge and the respondents were asked to indicate how important each factor was to the work of the accounting technician. The results from both the AT and employer surveys are shown in Table 3.

Table 3. The importance of specific skills, attributes and knowledge.

	ACCOUNTING TECHNICIANS			EMPLOYERS		
	Mean	*Std Dev*	*Rank*	*Mean*	*Std Dev*	*Rank*
Sense of integrity	4.80	0.47	1	4.86	0.35	1
Verbal communication	4.71	0.49	2	4.69	0.50	2
Listening skills	4.69	0.53	3	4.65	0.56	3
Problem solving skills	4.68	0.55	4	4.62	0.52	5
Technical accounting skills	4.65	0.59	5	4.60	0.56	6
Written communication	4.62	0.54	6=	4.57	0.58	9
Working independently	4.62	0.65	6=	4.57	0.61	7
Ethical awareness	4.60	0.65	8	4.56	0.67	10
Interpersonal skills	4.49	0.63	9	4.58	0.51	8
Team working skills	4.48	0.71	10	4.63	0.55	4
Good emotional intelligence	4.42	0.68	11	4.47	0.65	11
Electronic spreadsheet skills	4.41	0.67	12	4.30	0.62	12
Accounting software skills	4.39	0.78	13=	4.29	0.70	13
Organisational knowledge	4.39	0.67	13=	4.20	0.69	16
Working know. Comp. tech.	4.33	0.75	15	4.25	0.62	14=
Willingness to undertake prof dev	4.31	0.77	16	4.25	0.67	14=
Goal setting skills	4.16	0.87	17	4.06	0.77	17
Creative thinking skills	4.10	0.84	18	4.03	0.76	18
Supervisory skills	3.91	1.04	19	3.73	1.06	20
Know. Gen. economic env	3.87	0.85	20	3.75	0.81	19
Word-processing skills	3.43	1.01	21	3.50	0.91	21

Most of the skills, attributes and areas of knowledge were considered by both accounting technician and employer as either fairly important or very important to the AT. None of the factors were considered to be 'not important'. The average difference between the means of all the AT and employer responses is only 1%. However, the employers' ranked 'team working skills' fourth which is considerably higher than the ATs who ranked it tenth. Integrity, verbal communication and listening skills were considered the most important, by both groups of respondents, with two further aspects of communication listed as very important. This reinforces the emphasis placed on communication in the literature and the notion that these are important skills for more than just those at the Chartered Accountancy level. It is Interesting that 'technical accounting skills' were ranked fifth and sixth by the ATs and employers respectively; below 'integrity', 'verbal communication' and 'listening skills' in importance. This finding is consistent with the literature (see Arthur Andersen et al, 1989 and Rainsbury and Brown, 2001) but a little surprising given that the accounting technicians' work is of a more technical nature.

Written communication, ethical awareness, team working skills and organisational knowledge were four areas where the employers' mean ranking was two or more places different to the ranking assigned by the ATs. In particular, it appears the ATs did not see themselves as

needing team working skills to the same extent as their employers. However, there were consistently low rankings for supervisory skills, knowledge of the general economic environment and word processing skills in both survey groups' responses. If accounting technicians do not generally have line responsibility for other staff they would have less need for supervisory skills, an assumption that is also supported by the high ranking (6+) that the ATs gave to working independently. The more technical rather than decision making nature of their role would suggest knowledge of the general economic environment is not one of the more critical areas of knowledge to possess. One hundred and thirty-six (76%) of the ATs respondents report to a more senior accountant or CA.

One particular area that has been given increased emphasis recently by both professional bodies and businesses generally, did not feature as prominently as expected. In the literature (see for example Chaston and Mangles, 1991) CPD is considered very important to the career development and employability of accounting technicians. The diversity of AT roles and the various levels of responsibility they can have in the workplace makes CPD important as it ensures they keep their knowledge current in all areas and enhances their transferability. As Chaston and Mangles (1991) point out, CPD plays a vital role in upgrading the task role of ATs; an incentive for employers to encourage AT participation. Nonetheless the AT and Employer respondents to this survey ranked CPD's importance sixteenth and fourteenth equal respectively.

Ethical awareness, interpersonal skills and emotional intelligence were some of the other skills, attributes and areas of knowledge considered important in the literature but were ranked relatively low in these surveys. Although ATs appear to be largely involved in more routine tasks such as recording financial transactions and not the more judgmental areas such as auditing, these could be expected to be important features for any employee in an organisation.

The AT survey asked respondents to indicate how well each specific skill, attribute and area of knowledge listed was covered in their formal academic study. Again a five point Likert Scale was used with five indicating "excellent coverage", and one "no coverage". Table 4 shows the importance the AT respondents place on specific skills, attributes and areas of knowledge, together with the degree of coverage of these in their formal academic study. Consistent with their other responses, most of the factors that the ATs considered important to their work, did not rate high on coverage in their academic education. For example, listening skills, which were

rated third in importance, only ranked thirteenth in degree of coverage. Most factors had means suggesting fair coverage with some bordering on poor coverage; none of the factors had a mean indicating excellent coverage.   The average mean for importance was 4.38, while the degree of coverage had an average mean of 3.25; a difference of 26%. It appears that although many of the specific skills, attributes and areas of knowledge listed in the survey were considered important to the ATs work, the areas were not particularly well covered in their formal academic education. These findings were supported by some of the ATs' comments.

A substantial number of accounting technicians stated that their formal education did not prepare them for the demands and challenges of work. Specifically mentioned were some very basic skills, such as balancing a cheque book, basic grammar and spelling skills, to more advanced areas such as accounting software skills, and a working knowledge of specific taxes such as Goods and Services Tax. The majority of ATs considered most of their learning was achieved on the job and that a lot of the theory they learnt in their academic qualification was not relevant to the work they were doing.

Table 4. Importance and degree of coverage of specific skills, attributes and areas of knowledge

	Importance			Coverage			% change in means
	Mean	*Std Dev*	*Rank*	*Mean*	*Std Dev*	*Rank*	
Sense of integrity	4.80	0.47	1	3.52	0.96	6	27%
Verbal communication	4.71	0.49	2	3.34	0.87	7	29%
Listening skills	4.69	0.53	3	3.2	0.95	13	32%
Problem solving skills	4.68	0.55	4	3.53	0.87	5	25%
Technical accounting skills	4.65	0.59	5	3.99	0.85	1	14%
Written communication	4.62	0.54	6=	3.79	0.72	2	18%
Working independently	4.62	0.65	6=	3.67	0.95	3	21%
Ethical awareness	4.60	0.65	8	3.57	1.05	4	22%
Interpersonal skills	4.49	0.63	9	3.02	0.87	17	33%
Team working skills	4.48	0.71	10	3.21	0.96	12=	28%
Good emotional intelligence	4.42	0.68	11	3.01	0.99	18	32%
Electronic spreadsheet skills	4.41	0.67	12	3.12	1.13	14=	29%
Accounting software skills	4.39	0.78	13=	2.67	1.07	20	39%
Organisational knowledge	4.39	0.67	13=	3.27	0.94	10	26%
Working know. Comp. tech.	4.33	0.75	15	3.25	1.01	11	25%
Willingness to undertake prof dev	4.31	0.77	16	3.3	1.03	9	23%
Goal setting skills	4.16	0.87	17	3.04	0.95	16	27%
Creative thinking skills	4.10	0.84	18	3.12	0.91	14=	24%
Supervisory skills	3.91	1.04	19	2.5	0.96	21	36%
Know. Gen. economic env	3.87	0.85	20	3.32	0.94	8	14%
Word-processing skills	3.43	1.01	21	2.87	1.13	19	16%

More positively, a few accounting technicians commented that their formal study gave them a grounding and understanding in what accounting and business is all about, while others acknowledged that their formal academic study gave them both research skills and exposure to a broad range of situations that they do not receive exposure to at work. Furthermore the respondents said such coverage gave them confidence to solve more complex issues, or to argue a case with conviction.   One accounting technician commented that those without academic qualifications tend to lack this confidence.

Employers were asked to indicate the importance they placed on the same list of specific skills, attributes and areas of knowledge, together with the degree of strength displayed by the AT employee(s) in these areas.   A five point Likert Scale was used, with five indicating the AT employee was "very strong" in this area, and one indicating the AT employee was "very weak" in the area. Table 5 summarises the results.

Table 5. The strength AT employees display in specific skills, attributes and areas of knowledge

	Importance			Strength of AT			
	Mean	*Std Dev*	*Rank*	*Mean*	*Std*	*Rank*	*% diff means*
Sense of integrity	4.86	0.35	1	4.66	0.58	1	4%
Verbal communication	4.69	0.50	2	4.12	0.65	15	12%
Listening skills	4.65	0.56	3	4.16	0.69	14	11%
Team working skills	4.63	0.55	4	4.34	0.70	5=	6%
Problem solving skills	4.62	0.52	5	4.19	0.65	13	9%
Technical accounting skills	4.60	0.56	6	4.36	0.61	4	5%
Working independently	4.57	0.61	7	4.45	0.63	3	3%
Interpersonal skills	4.58	0.51	8	4.20	0.68	12	8%
Written communication	4.57	0.58	9	4.04	0.73	16	12%
Ethical awareness	4.56	0.67	10	4.46	0.70	2	2%
Good emotional intelligence	4.47	0.65	11	4.33	0.65	7	3%
Electronic spreadsheet skills	4.30	0.62	12	4.27	0.68	8	1%
Accounting software skills	4.29	0.70	13	4.24	0.69	9=	1%
Willingness to undertake prof dev	4.25	0.67	14=	4.34	0.62	5=	-2%
Working know. Comp. tech.	4.25	0.62	14=	4.23	0.66	11	0%
Organisational knowledge	4.20	0.69	16	4.24	0.65	9=	-1%
Goal setting skills	4.06	0.77	17	3.95	0.71	17	3%
Creative thinking skills	4.03	0.76	18	3.81	0.75	19	5%
Know. Gen. economic env	3.75	0.81	19	3.87	0.77	18	-3%
Supervisory skills	3.73	1.06	20	3.80	0.85	20=	-2%
Word-processing skills	3.50	0.91	21	3.80	0.84	20=	-9%

The difference in ranking between the importance of a factor to the work of the AT employee, and the degree of strength the AT employee displays in the area is notable. However the lowest mean value for degree of strength is 3.80 and as 4 represents 'fairly strong' the employers

clearly consider their ATs have strengths in many areas. For example, verbal communication is ranked second in importance, but only fifteenth in terms of the AT's strength. However, although ranked fifteenth, the mean is still 4.12, signifying the AT displays this skill 'fairly strongly' in the workplace.

Supervisory skills and word processing skills are the lowest ranked factors both in importance and AT strength. Nonetheless the means for these skills are still relatively high. These findings suggest employers consider their ATs have strengths in all the listed skills, attributes and areas of knowledge which is consistent with many of the general comments they made in their responses. In particular, they considered accounting technicians were highly regarded staff members because of the value and skills they bring to the organisation. Indeed employer respondents cited the ATs' educational qualifications; the ethical attributes associated with their membership of a College of the NZ Institute of Chartered Accountants; and the perceived knowledge they have of current accounting issues, as the most important reasons for employing an AT.

Generally the AT respondents considered the skills, attributes and areas of knowledge listed were important to their work, but they had not necessarily received adequate coverage in their formal academic study. However, the employer respondents considered their AT employees displayed a relatively high degree of strength in these same areas. One explanation for these apparent differences in response is that accounting technicians bring their life and previous work experiences to their current employment. Many accounting technicians are mature adults and their life and previous work experiences may have added considerable strength to their current performance.

NZDBus papers ATs found most useful

Accounting technicians who have either completed, or partially completed the New Zealand Diploma in Business (NZDipBus), were asked to indicate how useful their completed NZDipBus papers were to their employment. Sixteen NZDipBus papers were listed in the questionnaire. These were chosen on the basis they were the papers most likely to be chosen by an accounting student. (When collating the results, no other NZDipBus paper was listed in any significant quantity in the "other" column.) Again a five point Likert Scale was used ranging from five "very useful" to one "never useful".

Over 53% of the AT respondents had either completed, or partially completed, the NZDipBus as their tertiary qualification to satisfy the academic requirements of the AT College. Forty-five percent had either completed, or were in the process of completing, a business degree majoring in accountancy. Seven percent of the respondents did not have any academic qualification. The responses of the AT respondents who had either completed, or partially completed, the NZDipBus are summarised in Table 6.

The AT respondents were also asked to indicate the main areas in which they work. The two most frequent areas of work were Financial Accounting (80% worked in this area) and Taxation (60%). This result supports the range of duties accounting technicians typically perform in business (see Table 1). It is also not surprising that the two NZDipBus papers identified as the most useful were Financial Accounting and Accounting Practices.

Table 6. The degree of usefulness of NZDipBus papers

NZDipBus Paper *			
	Mean	*Std Dev*	*Count*
201 Financial Acccounting	4.69	0.55	102
101 Accounting Practices	4.62	0.63	106
206 Taxation	4.56	0.80	84
210 Law of Legal Enterprises	4.56	0.53	9
100 Accounting Principles	4.50	0.72	108
150 Computer Concepts	4.22	0.98	95
205 Auditing	4.07	0.83	14
203 Business Finance	4.04	0.96	51
202 Management Accounting	4.00	1.13	96
140 Business Communication	3.91	1.02	98
130 Organisation and Management	3.53	0.96	98
211 Business Law	3.52	0.83	33
110 Introduction to Commercial Law	3.45	0.96	103
160 Quantitative Business Methods	3.40	1.07	52
120 The Economic Environment	3.35	0.92	92
141 Marketing	2.79	1.04	47

 * The bolded papers are mandatory if the NZDipBus is to satisfy the AT College academic requirements. Students must also include one of 203, 205 or 206.

On-the-other-hand, the areas that the least number of AT respondents worked in were Marketing (4%) and Law (5%) and this is reflected in the papers accounting technicians found least useful in their employment. Although 210 Law of Legal Entities has a mean score of 4.56, only nine accounting technicians had taken this paper suggesting the paper is not seen as

important at the study planning stage. Both Commercial Law and Marketing papers are among the bottom four papers listed for usefulness and indeed many of the larger firms probably either employ separate legal and marketing staff, or use other specialist firms to undertake these duties for them.

It is noteworthy that only 13% of the AT respondents indicated they worked in the Auditing area, which is consistent with only 13 taking the auditing paper in the NZDipBus. At present auditing appears to be an area that ATs are either not typically assigned to or they are choosing not to be involved with.

More general information regarding ATs

The most common reasons the accounting technicians gave for joining the New Zealand Institute of Chartered Accountants were:

- o Recognition of personal experience and education – 83%
- o Signifies membership of NZ's professional accounting body – 77%
- o Improved employment prospects – 59%.

Approximately 23% of the AT respondents were planning to use the AT College as a stepping stone to joining the CA College. Whereas nearly 77% were planning to remain in the AT College, (a few were undecided). There were a number of general comments in the AT Survey from accounting technicians expressing concerns about the difficulties of going from the AT to the CA College. These accounting technicians considered the step between the two Colleges too large, with many stating that it is difficult to complete the required academic study for the CA College while working full-time. There were a number of suggestions that the New Zealand Institute of Chartered Accountants needs a qualification between AT and CA. Associate Chartered Accountant (ACA) had previously been the ultimate professional qualification of the New Zealand professional body and the ACA College was retained for a short period after the introduction of the CA College in 1994.

Interestingly in November 2006, the Institute reopened the ACA College and by June 2007 (NZICA Board Update, 25 June 2007) they had received a total of 589 applications for admission. An analysis of these applications shows 305 are from existing members (most likely all AT College members) with 263 of them seeking admission through the special entry route. Of the 284 non-member applications received, 190 are seeking admission through the special

entry route. The special entry route is open until 1 November 2008 and allows candidates to have either a degree or NZDipBus or courses/papers deemed comparable to one of those qualifications with no requirement to have specific accounting or business courses included in the academic component. Further, the special entry route does not require candidates to show specific work experience. Depending on the candidate's academic component they simply need to show evidence of a minimum of three years (degree or equivalent) or five years (NZDipBus or equivalent) recent work experience in an accounting or accounting related role/s, with competence in at least two areas.   The ACA designation is positioned between AT and CA.

CONCLUSIONS

There is mounting evidence that ATs perform a number of different roles in a variety of organisations. Franks (1996) describes accounting technicians as 'middle-level' accountants; that is, providing support services to both chartered accountants and managers. The findings of this research that 76% of the AT respondents report to a senior accountant/ chartered accountant, and that these employees undertake many duties, support Frank's observation. There are also indications that their duties are of a more technical, rather than decision-making nature. This research identified recording financial transactions; preparing financial statements; providing financial and management information; managing accounting systems; and advising on taxation effects as the duties most commonly undertaken by ATs.

It appears the 'soft skills' identified as important to Chartered Accountants (members of the CA College) are also important for accounting technicians and the roles they play in organisations. The finding that both the accounting technicians and employers consider integrity, communication skills and problem solving skills to be very important suggests that educational programmes for accounting technicians need to cover more than just the basic technical accounting skills. While employers consider their AT employees generally display strengths in the 'soft skills' area, the accounting technicians considered the coverage of these skills in their formal education was inadequate.

The qualifications of the sample population used in this study are not necessarily representative of the entire AT College, as many of the early members were admitted to the AT College on the basis of their work experience and not tertiary qualifications. Nonetheless in this study over 53% of the AT respondents indicated they had completed or partially completed the NZDipBus with 45% having completed or partially completed a business degree majoring in accountancy.

However, only 23% indicated they were intending to proceed to the CA College. This indicates that while the NZDipBus is still the preferred academic pathway for the majority, many accounting technicians are completing degree programmes without necessarily intending to proceed to the CA College. One explanation could be that the AT and/or their employer are placing importance on gaining a degree qualification in addition to acquiring the AT professional membership. It might also reflect the importance being placed on the "soft skills" which may not be covered as well in the more technical Diploma programme.

The evidence provided by this study (and others) indicates accounting technicians fill a market niche and are valued employees. Employers consider accounting technicians bring a number of different skills, attributes and areas of knowledge to organisations and accordingly assign them a range of duties. Nonetheless, the AT College does not have a high profile in New Zealand with it often seen as merely a 'stepping stone' and its members the 'poor cousins'. There is scope for the image of the AT College to be improved with membership promoted in its own right, as a brand that adds value to business. There is clear evidence Australia is going to adopt this approach, with the three professional bodies collectively supporting a $1 million development funding proposal for the restructuring and development of the AAT. New Zealand, on the other hand, appears to have moved their attention to a third tier positioned between the CA and AT Colleges; the ACA College.

Perhaps not surprisingly, the findings of this research suggest that all the NZDipBus courses are of some use to accounting technicians, but those that proved to be most useful were directly related to the accounting areas they typically work in; for example financial accounting, accounting practices and taxation. This suggests there is some alignment of the NZDipBus curriculum with the foundation technical skills and knowledge required by ATs. However, the ATs perceptions that their accounting education did not adequately cover the required skills, attributes and knowledge needed in their work environment is a concern. It is imperative that the curriculum content of programmes, particularly vocational programmes such as the NZDipBus are kept relevant to the changing business environment and workplace. Because the NZDipBus is owned and controlled by NZQA, a Government Department, the programme's curriculum will not be able to respond quickly to change and any curriculum review will require the Government, professional bodies and tertiary institutions to collaborate. There are also indications from these research findings that a number of accounting technicians undertake accounting studies at degree level, which is beyond the minimum level required for AT College

membership, and yet they do not intend proceeding to the CA College. This suggests some students are not only seeking AT membership but also a University education and qualification. The sub-degree Diploma may be losing currency in the accounting qualification market.   It may also follow that the ACA College, which under its standard entry requirements requires the completion of a degree, will gain favour over the AT College. However the market reaction, both nationally and internationally, to New Zealand's three tier professional body structure is still uncertain.

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BACK TO THE BASIC: ACCOUNTING AS A NUMBER-CRUNCHING COURSE

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Abstract

Accounting has long been known as a number-crunching course however its existing teaching model considers it as a language of business focusing on rules. This paper uses mathematical perspectives in the teaching of the financial accounting course. Mathematics-based accounting learning enables students to understand accounting easier because it is rational and makes sense. This paper discusses the rules of debit and credit based on mathematic theorem, namely the ordered pairs of the group of differences construction. It uses the accounting equation as a means of identifying various possible business transactions. The mathematics-based accounting learning is in accordance with the firstly published Mathematics book written by Luca Pacioli. This paper also suggests that at least accounting textbooks dedicate a specific chapter to discuss measurement issues in accounting principles courses.

Keywords: A number-crunching course, expanded accounting equation, transactions, measurement in accounting

A. Introduction.

The accounting education has been internationally a subject of criticisms (Duff and McKinstry 2007) as it is considered passive (Bonner 1999) and unable to catch up with current development in business to the extent that students can hardly receive any perfect picture of the real business world (Adler 1999). It is also criticized because it depends too much on memorizing and focusing too much on rules (Demski 2007; Fellingham 2007). As a result, most accounting books are similar to one another (Sullivan and Benke 1997) which in turn make accounting less than appealing to the student. Furthermore, researchers and accounting

educators pay more attention to their careers but neglect the contributions of accounting to academic field (Fellingham 2007).

Three studies published by AAA, namely Bedford Report (1986), Big Eight White Paper (1989), and Albrecht and Sack Study (2000) discussed the importance of developing new models in accounting education (see Clevenger et al. 2006). Some researchers also pay attention to the development of accounting education models. Duff and McKinstry (2007, p.205) offer the use of SAL (Student Approaches to Learning) because it "provides accounting educators with a range of models, instruments, and perspectives to evaluate and integrate their teaching interventions so they may achieve intended outcomes". Other researchers suggested the use of information technology to improve the effectiveness of accounting study (Elliot 1992; Mohamed and Lashine 2003; David et al 2003; Goldwater and Fogarty 2007). Recently, Fordham and Hayes (2009, p.187) found that "paper color did have a significant effect on student performances". It shows that the topic of accounting education is still and will always be an interesting topic to be discussed. Accounting was documented for the first time in Luca Pacioli's mathematic book (Weis and Tinius 1991).

The use of double entry system reflects the application of mathematics in accounting. However, mathematics-based accounting learning is hardly found in modern textbooks. This paper discusses the use of mathematics-based learning in the financial accounting courses, especially an accounting principles course. The mathematical perspective in accounting education is interesting for several reasons. Firstly, mathematics is elegant (Hatfield 1924). Secondly, double entry system that has been tested for 5 centuries is based on mathematics (Fellingham 2007). Thirdly, most students have been familiar with mathematics for a long time. Fourthly, "humans are born with the capacity to do simple math." (Hauser 1999, 1483). This paper discusses the accounting principles course because the course is studied by accounting students as well as non-accounting students.

The remainder of this paper is presented in five sections. The first section discusses the mathematical rationality of the accounting equation in which the double entry system is based on. The second section discusses the recording of transactions as an input in accounting. The third section, based on the ordered pairs of the group of differences construction, describes the rationality of the rules of debit and credit. Using the accounting equation, the fourth section identifies types of business transactions. The final section discusses the importance of specific discussion about measurement in one of chapters in the accounting principles course.

B. Rationalizing Accounting Equation

The Accounting equation is one of the important topics in accounting. The elements of the equation are "the building block with which financial statements are constructed – the classes of items that financial statements comprise" (FASB 1985, par.5). Normally the accounting equation consists of five elements namely assets, liabilities, equity, revenues, and expenses. Some accounting books express accounting equation as: Assets = Liabilities + Equity (Williams et al. 2005; Anthony et al. 2007), and some other books express it as: Assets = Liabilities + Equity + (Revenues – Expenses) (Horngren et al. 2002; Weygandt et al. 2008). These elements are measured in terms of a monetary unit. The rationality of this conventional equation is that assets derive from liabilities and equity. Revenues and expenses are part of equity; revenues increase equity while expenses decrease equity.

"Pacioli, like other mathematicians of his time, did his utmost to avoid even the use a symbol for minus, let alone a negative number" (Peters and Emery 1978, p.426). Thus, the accounting equation can be written as Assets + Expenses = Liabilities + Equity + Revenues. The left side of the equation reflects the uses of funds, that is to get assets and pay expenses, while the right side reflects the sources of funds, namely from third parties, equity, and revenues. When the amount total of the uses of the funds is higher than the amount total of the sources of funds, it can be concluded that something goes wrong because there is no explanation on how

the funds is acquired. The authors argue that the rationality is more consistent and easier to understand than the conventional one.

The conceptual framework of the IASB states 5 elements of financial statements namely assets, liabilities, equity, income and expenses (Alfredson et al. 2007), while the FASB states 10 interrelated elements of financial statements namely assets, liabilities, equity, investments by owners, distribution to owners, comprehensive income, revenues, gains, and losses (FASB, 1985).

Despite the facts that the boards have different elements, the balance between the left side and the right side of the accounting equations which is required by mathematics will remain the same. In the accounting learning, instructors are allowed to develop new elements which have not been determined by the standards. The FASB (1985, par.3) states that "Although the elements defined in this Statement include basic elements and are probably those most commonly identified as elements of financial statements, they are not the only elements of financial statements". Therefore, mathematics-based accounting learning invites students to understand and develop concepts rather than just recognizing rules.

C. Recording transactions

A transaction is the input of accounting. Weygandt et al. (2008, p.14) defined a transaction as: "a business' economic events recorded by accountants". Anthony et al (2007, p.31) defined transactions as "events that affect the numbers in an entity's accounting record…" Horngren et al. (2001, p.10) defined a transaction as "any event that both affects the financial position of an entity and can be reliably recorded in money term". The three definitions above need further explanation in order to facilitate students' understanding.

Based on the accounting equation, a transaction can be defined as any business event that leads to changes in the elements of the accounting equation by maintaining the balance of it. The changes of elements can be either positive or negative. Consequently, if a transaction

changes assets then other assets, liabilities, equity, expenses, revenues (or combinations of those elements) change. Thus, a transaction at least will cause 2 changes.

Presenting accounting information based on the elements of accounting equation is considered uninformative because one element can consist of various objects. For example, 2 firms A and B have equal total assets. Most of firm A's assets are account receivables, while most firm B's assets is buildings and machinery. Despite the fact that both have equal total assets, creditors assume that firm A is better than firm B in their ability to pay short-term liabilities. In order to present informative accounting information, the elements of accounting equations must be elaborated in detail in the forms of accounts. Each account should reflect a homogenous object.

As mentioned above, a transaction at least will cause 2 changes. Therefore, recording a transaction at least will involve two accounts. In accordance with the rationality of the accounting equation, there are two types of accounts namely accounts reflecting the use of funds (on the left side of the equation) and accounts reflecting the sources of funds (on the right side of the equation). Mathematically, it can be explained as follows: a transaction that involves 2 accounts of the same type will have reversed relationships. For example, the payment of salary increases salary expenses (an element of expenses) and decreases cash (an element of assets). On the other hand, the purchase of supplies on account increases supplies (an element of assets) and account payable.

D. Understanding the Rules of Debit and Credit

Modern accounting explicitly or implicitly puts the emphasis on the need of double entry accounting system in every transaction recording. It requires a balance system between debit and credit. Although double entry system has been used widely, the literatures on mathematical formulation of the double entry and its connection to the accounting are still limited. Ellerman (1985, p.226) mentioned that only few mathematic literatures connected to the mathematics-

accounting double entry, and the connection "is totally absent in the accounting literature....". Furthermore, Ellerman (1985) mathematically explained the rules of the debit and credit.

The explanation of the rules of debit and credit is as follows. Supposed, Assets = 10, Expenses = 5, Liabilities = 2, Equity = 6, and Revenues = 7. The accounting equation is 10 + 5 = 2 + 6 + 7. Based on the ordered pairs of the group of differences construction (see Ellerman 1985), the assets with the value of 10 can be recorded either at one side, i.e 14 is recorded to the debit and 4 to the credit, or 4 to debit and 14 to the credit. According to the mathematics formulation, however, the first alternative should be applied because the assets have positive value and it is located at the left side of the accounting equation. The interpretation is that 4 on the credit deduct 14 on the debit. As a result, the additional of assets is recorded on the debit while the deduction of assets is recorded on the credit. Such rules are also applicable to the liabilities for creating a balance condition. Let us consider the liability is 2 and it can be recorded either 20 on the debit and 18 on the credit or 18 on the debit and 20 on the credit. When the mathematics formulation is implemented into the double entry, the second alternative should be applied because the liability has positive value and it is located on the right side of the accounting equation. The number of 18 on the debit deducts the number 20 which on the credit. Therefore, the increase of liabilities is recorded on the credit while its decrease is recorded on the debit.

E. Understanding types of business transactions

Accounting equation can be implemented in identifying various real business transactions. If there are five elements of basic accounting equation, there will be 15 types of transactions as follows.

1. Transaction that changes assets (types A); firm A purchases supplies in cash.

2. Transaction that changes assets and expenses (type B); firm A pays employee salaries in cash

3. Transaction that changes the asset and liabilities (type C); firm A purchases supplies on credit

4. Transaction that changes assets and equity (type D); firm A issues common stocks by cash

5. Transaction that changes the asset and revenues (type E); firm A earns revenue by cash

6. Transaction that changes expenses (type F); firm A makes correcting entries for salary expenses that have been recorded as advertising expenses.

7. Transaction that changes expenses and liabilities (type G); firm A receives electricity and phone bills

8. Transaction that changes expenses and equity (type H); firm A issues common stocks in which the payment is in the form of services given by the buyer.

9. Transaction that changes the expenses and revenues (type I); firm A and firm B do service barter.

10. Transaction that changes liabilities (type J); firm A converts its short-term debt into bonds.

11. Transaction that changes liabilities and equity (type K); firm A converts its bonds into common stocks

12. Transaction that changes liabilities and revenues (type L); firm A recognizes its unearned revenues into revenues.

13. Transaction that changes equity (type M); firm A converts its preference stocks into common stocks.

14. Transaction that changes equity and revenues (type N); firm A, in the business on advertisement, distributes revenue dividends, and the stockholders directly utilize the dividends.

15. Transaction that changes revenues (O); firm A makes correcting entries for consulting revenues that have been recorded as other revenues.

By making simulation based on the accounting equation, the authors reveal the limitation of the current financial accounting standards. Several transactions given above – namely types F, H, I, N, and O are rarely found in the accounting literatures. For an education purpose, the most important thing is that the equation simulation will help students understanding the accounting concepts rather than memorizing the rules.

F. INCLUDING MEASUREMENT ISSUES IN ACCOUNTING COURSES

Accounting information should be presented in the monetary units. FASB (1984) has been implemented several different measurements and predicted to be in use for the future. Some accounting measurements used nowadays are; historical cost, current cost, current market value, net realizable value, and present-value of future cash flows. Most accounting text books, unfortunately, hardly ever discuss specifically the measurement topic. The authors so far have not found any literature discussing the accounting measurements in a particular chapter .It was dominantly discussed under other topics, so underestimate behavior among students will occur.

Nowadays, the accounting experts have been discussing the impact of the IFRS implementation in the accounting curriculum (see Nilsen, 2008). The IFRS uses accounting fair value which demands the students to understand various measurements that have been incorporated into the curriculum or that will be developed in the future. To anticipate the implementation of IFRS in America, Stone (in Nilsen 2008) recommends accounting students have strong foundation in finance and economics. Nikolai (in Nilsen 2008) mentioned that the University of Missouri is considering combining fair value accounting with IFRS into conceptual-based course because the students needs to develop more expertise. Needles (in Nilsen , 2008) said " I suspects that we will have a course in valuation related to fair value accounting….". Referring to such argumentations, it is essential to discuss about minimal fair value in a separate chapter.

It is concluded that the accounting is numeric crunching course. The application of double-entry system which based on mathematics has been proven for almost more than five centuries. When the accounting curriculum development incorporates into the international standard and future purpose, new course "Accounting Mathematics", should be given.

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BENCHMARKING THE FIRST YEAR ACCOUNTING UNIT: SOME EVIDENCE FROM AUSTRALIA

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Abstract

Purpose – The purpose of this paper is to compare some key organisational attributes of three accounting schools located at Australian universities. In addition, the content, structure and presentation of the first-year accounting unit is examined with a view for identifying best practices.

Design/methodology/approach

Three Australian universities – one each from Sydney, Melbourne and Perth agreed to collaborate in this project. The heads of the respective schools extracted relevant data for the school comparison whilst a workshop meeting between the first year accounting unit co-ordinators undertook a content analysis from their subject guides.

Findings

The three schools had similar issues to manage including an aging staff profile, high use of casual academic staff and large student numbers across different campuses. Unsurprisingly, given the need for professional accounting body accreditation, the content of the courses was very similar. However, there were significant differences in both delivery and assessment, with potential implications for both quality and resource use.

Research limitations/implications

The size and characteristics of the three universities investigated for this project may be quite different to the wider population of accounting schools.

Practical implications

The results of this benchmarking comparison has prompted managers to be aware of the critical issues identified and take appropriate action to remedy them, For example, incentive schemes for staff to increase research outputs have been improved.

Originality/value

The authors are unaware of any previous benchmarking study comparing accounting schools at Australian universities. The findings of this project can lead to better teaching and learning outcomes for first year accounting students.

Keywords Benchmarking, Universities, Accounting courses

1. Introduction

The benchmarking project which forms the basis of this paper was initiated by discussions between the Business Deans from the three participating universities – one each from Western Australia, Victoria and New South Wales (NSW). The driving force for the initiative was a response to recommendations from the Australian Universities Quality Agency (AUQA) that universities undertake benchmarking processes as part of the quality assurance processes in the organisations. The objective of this project was to make comparisons of the content,

structure and operations of a large first year unit common to each institution. The analysis was specifically directed towards two outcomes:

(a) an indication of current best practice, which might provide the basis for improvement opportunities at each university, and
(b) confirmation that appropriate standards were being applied by each university.

The unit chosen for detailed analysis at each institution was the first year introductory accounting unit, then perceived as compulsory for all students undertaking an undergraduate business major. The Heads of School of Accounting of the three participating universities met in July 2008 and established broad areas for detailed analysis and comparison for the accounting units.

The major inputs into the comparative process were conducted via email, with source documents circulated among the interested parties; the detailed analysis of the data was undertaken in face to face meetings in September and October 2008, attended by both the Heads of School and the coordinators of the first year accounting units.

Detailed findings, and recommendations for future action, were reported to the respective Business Deans in November 2008.

The paper details differences across the three universities – designated as Case 1 (Western Australia); Case 2 (Victoria) and Case 3 (NSW)– across the areas of staff and student demographics, course content, course delivery and course assessment. The paper concludes with a summary and recommendations.

2.   Literature review.

Benchmarking is a process for identifying and implementing best practice at a particular point in time. It is equally applicable to the private sector (see Kouzmin *et al* (1999)) as to the public sector (see for example Vagnoni and Maran (2008). It is a tool that is used to not only identify best-practice but also more importantly to gain an understanding on what processes are being utilised to achieve best practice. It has been used (most likely, incorrectly), interchangeably with terms such as business process engineering , total quality management and key performance indicators (KPIs) (Alstete 2008). Benchmarking is not a new technique used in the university sector. In factor comparisons of university performance based on teaching, research student satisfaction etc is well documented and marketed as a tool for ensuring prospective students have access to some performance indicators.

Pursglove and Simpson (2007) benchmarked the performance of English universities dividing the universities into the Russell Group (research oriented universities) and the post-1992 universities. Their findings included that the post-1992 universities were more effective and efficient than the Russell group members which was at odds with the position of these universities published in league tables.

Understanding clearly what the issues are regarding the teaching of a first year accounting unit is an important topic for academics, students and prospective employers. A study by Jones and Sin (2005) found that almost a third of accounting students rated communication skills highly but that more of the non-accounting students placed communication skills first. These authors argue that unit course outlines need to incorporate generic/communication skills into ongoing student assessment. Similiarly, Morgan (1997) found that practioners assigned a high

importance to oral communication skills of active listening, constructive participation in meetings and one-to-one communication. One of the project aims for this investigation is to identify what and how students are assesses in their first year accounting unit.

Lucas (2003) found that the results of a survey of 250 000 accounting students that the variety of accounting students studying introductory accounting caused problems, because academic staff found it problematic to change their teaching styles to teach masses of students with different entry levels, where English was not their first language, age, ethnic group, gender, socio-economic status and students from non-traditional backgrounds. Given this diverse student population, Malgwi (2006) undertook a survey of 796 students at one university to ascertain whether there was merit in providing separate courses to students on the basis of whether they were intending to undertake an accounting major. The findings revealed that that there was a significant difference in the interest levels prior to and after undertaking the course. That is, the students undertaking a major in accounting had shown more interest and confidence in taking their exams than non-accounting major students, suggesting that a separate stream should be considered.

3.   Method

As a consequence of the recommendations of AUQA, the Business Deans of three Universities decided to benchmark a large undergraduate unit and this project would form the basis of future benchmarking exercises across different schools within the business faculty. To allow for reasonable comparisons, the three universities chosen were Post-Dawkins universities in that they were not established research oriented universities but rather each had a history as a teaching university.

The first year accounting unit was chosen for the first benchmarking exercise because:
* It was the largest subject offered at each location
* The unit involved the use of large number of full-time and casual staff compared with other disciplines.
* The students enrolled in the subject comprised a diverse group which included full-time and part-time students, school leavers and mature-age students, local and international students and, students enrolled to gain a major in accounting whilst other students were intending to specialise in other disciplines.

The three heads of schools were provided with some freedom in choosing what areas would be benchmarked and after numerous e-mail contact and telephone conversations it was decided to benchmark the following areas:

1. Accounting staff demographics
2. First year student accounting demographics and,
3. First year accounting unit.

Data for the accounting staff demographics was more difficult to obtain partly, because the source data was scattered across various sections of the school, faculty and centrally by the university and partly because the data was not presented in a form that was tailored for easy comparisons with other accounting schools at other universities. For the staff demographics source data was obtained from information held within the office of the head of school as well as information collected from the human resources department. Direct contact was made with other academic school staff where clarifications were required and where recently employed

staff did not have all of their previous academic history recorded electronically by the respective school.

The first year accounting student demographics data was collected from the faculty and cross-referenced with school data for accuracy. The first year accounting unit subject guide was used as the basis for a comparison of of this subject across the three universities. Moreover, a workshop was scheduled at one of the universities where the first-year accounting unit co-ordinators identified challenges in administering the unit, any major differences in unit content and how the assessment tasks differed.
The data was then tabulated in a spreadsheet format to allow for easy comparison between the three universities

4.   Findings and discussion

4.1   Accounting Staff Demographics

In terms of staff numbers, CASE   1's accounting discipline is approximately one third the size of Case   3 and CASE 2 – numbers consistent with the size of their respective student enrolments. Both CASE 1 and CASE 2 had relatively high numbers of male staff (64% and 76% respectively), whereas CASE 3 had 53% of its staff as female. The majority of staff are employed at Lecturer or Associate Lecture levels (CASE 1 55%; CASE 3 83%; CASE 2 76%) with all three universities having very low numbers of staff at the Associate Professor and Professor level; notably CASE   3 did not have any staff at these senior levels.
The age profile of accounting academic staff showed only CASE 3 to be the only employer of staff in the 20-29 age group, though this only accounted for 8% of its total staffing. All universities in the study had difficulty in recruiting and retaining younger people for a career in academia, which may reflect the requirement that prospective employees should have a higher degree qualifications (ideally a PhD) before being considered appointable. It is interesting to note that 46% of staff at CASE 1 are in the 60+ age bracket and 56% of staff at CASE 3 are in the 50-59 age bracket. These profiles will need to be monitored carefully across the sector as more staff move into retirement or elect to take an early voluntary retirement package.

Staff demographics have significant implication for the research performance of the three participating universities. Each has a high proportion of non-researchers in their accounting school, 86% for CASE 3, and 35% for CASE 1 and CASE 2. Recent literature (e.g., Smith, Whale & Noronha, 2008, for refereed publications) places all three universities in the bottom half of the rankings for Australian schools of accounting. The benchmark data provide evidence to explain such a situation:

- a paucity of senior staff across all three institutions, with CASE 3 notable in having no appointments at professorial levels;

- the absence of experienced researchers in senior positions to lead by example, and to mentor colleagues, is clearly apparent. While CASE 1 and CASE 2 both benefit from the publication activities of a small number of prolific individuals at a senior level, in their absence CASE 3 performs relatively poorly.

- since the supervision of higher degree by research candidates, particularly at doctoral level, is normally predominantly undertaken by those at professorial levels, then this impacts on HDR completions across the three universities, with again a relatively small number of individuals carrying this activity.

Thus senior positions appear to drive research performance and set the appropriate tone for the development of a research culture which attracts new research appointments. All three universities need to make senior appointments of research-active individuals if their research performance is to improve. The precarious age profile of CASE 1 also suggests that they need to appoint a number of younger research-active staff. In this regard CASE 2 is currently the stand-out performer, with a healthy cluster of young academics pursuing doctoral qualifications. However, if CASE 2, and to a lesser extent CASE 1 and CASE 3, are to hold on to their active, qualified researchers then current perceptions of their being 'feeders' for more established institutions in their States, must change.

None of the three universities made significant use of contract staff, though between 22% and 31% of staff were employed on a sessional (casual) basis. Although this percentage of sessional staff does not appear remarkably high, it may convert to a high number of sessional staff concentrated in one place. This proved to be the Case for both CASE 3 and CASE 2, with respectively 30 and 40 sessional staff commonly involved each semester in the teaching of their first-year accounting unit. These numbers have serious implications for students who require access to staff members for consultation, as well as for the timeliness of reporting between sessional and permanent staff, and ensuring consistency of presentation to students across the various sessional staff teaching across different campuses. In such situations the management of the unit becomes problematic: there was evidence from CASE 3 of the unit co-ordinator being forced to prepare and distribute detailed lesson plans to tutorial staff to maintain a semblance of consistency of delivery. Worse, some accounting subjects (though not Accounting 1) were co-ordinated entirely by sessional staff, with implications for the management approaches necessary to ensure appropriate levels of teaching and learning outcomes.

A significant difference existed in the proportions of mature age students, relative to school leavers, in the student cohort of accounting students, with 80% of CASE 1's students of mature-age compared with 48% for CASE 3 and 42% for CASE 2. Given the national trend of a declining percentage of school leavers undertaking a higher education qualification, these statistics indicate that more resources may need to be directed towards this mature-age group to meet these challenges.

4.2   First Year Accounting Demographics

In terms of local and international students CASE 2 and CASE 3 have similar cohorts (with 22% international) while CASE 1 has 11% of international students. External students are very small in number throughout, but all universities had a significant proportion of mature-age students (relative to school leavers). These demographics in the first year unit indicate the complexity of teaching a first year unit since a significant number of students will not have English as their first language and an even larger proportion may be returning to study after a significant time lag.
When combined with the problems referred to above with sessional staffing, notably lack of student access and absence of consistency, then language and confidence problems will likely pose additional pressures on the student cohort, with an impact on survival and retention.

4.3 Course Content: First Year Accounting Unit

The objectives and desired outcomes from each of the three courses are similar, with the major focus of each unit being in the areas of preparation and interpretation of basic financial information. All three units have a mix of financial accounting and management accounting with

CASE 2 and CASE 3 spending three weeks on management accounting topics whilst CASE 1 spend only two weeks on this area. The remainder of the course focuses on topics related to financial accounting with some minor variations but significantly none of the three courses focus on the concept of debits and credits. This reflects the fact that all three courses have been developed to cater to the need of students who can be either accounting or non-accounting majors.

All three universities had recognised the importance of inter-personal skills for business, and were addressing observed deficiencies in written and oral communications among the accounting student cohort. All had either begun, or were contemplating the introduction of 'skills based' units into the accounting curriculum. At CASE 3 this was limited to a single unit, teaching students practical skills for library database searches, written communication, literature evaluation, and an appreciation of cultural and ethical issues.
CASE 2's corresponding program provided three successive units which developed students' business knowledge, personal attributes and professional skills.
CASE 1's program comprised consecutive units in each year of the degree which introduced students to the concept of business, and assisted students in the acquisition of interpersonal and teamwork skills.
Thus while CASE 3's skills course primarily focused on improving students' practical skills, those at CASE 1 and CASE 2 aimed to assist the student to improve their leadership, assessment, decision-making and problem solving skills in addition to practical business skills. While the course at CASE 1 was the most wide-ranging, it also had the most serious consequences for the structure of the business degree. Because of the limited scope for elective units within the bachelor degree course, there was no longer a common core of introductory-level business subjects applicable to all business students. Thus while both CASE 2 and CASE 3 maintained a common-core, it was possible for a non-accounting major to graduate in business without ever having completed an accounting unit. (The same would be true, for example, of a non-marketing major –they need never have completed a marketing unit.)

4.4   Delivery

All three universities adopted a traditional 'lecture + tutorial 'format, with the lecture used to impart knowledge, and the tutorial having a workshop/seminar structure to follow up, clarify and provide practice exercises.
All three universities had three hours of class contact per week over a 13-week semester to complete their introductory accounting unit. However, while both CASE 1 and CASE 2 had a two-hour lecture, with a one-hour tutorial, for CASE 3 it was the opposite: a one-hour lecture and two hours of tutorial. The latter might be regarded as superior for learning purposes, especially given trends in student attendance (currently around 60% for lectures and 95% for tutorials). However, this structure is much more resource intensive, especially given the large number of tutorials necessary to conduct the CASE 3 course. A cost-benefit evaluation of this alternative structure might be beneficial.

4.5   Assessment

The assessment structure for each unit is also similar, with CASE 1 and CASE 2 having four assessment items while CASE 3 has five assessment items. The weightings assigned to the assessment items are also similar with the main exception being that CASE 3 has a final exam weighted at 45%, both CASE 1 and CASE 2 have a final exam weighted at 60%. This difference is partly attributable to the fact that the final exam at CASE 3 covers only the second

half of the course (i.e., after the mid-semester test) while for CASE 1 and CASE 2 all topics covered are examinable in the final exam.

While for all three universities assessment comprised a summation of coursework and examinations, there were differences in how this structure was implemented. For CASE 2 there was no exam threshold at all; marks across different components were totalled without weighting for whether they were individual time-constrained assessments or team-based assignments. Both CASE 3 and CASE 1, on the other hand, implemented examination thresholds – students had to achieve a certain grade on the final examination to pass the unit (45% for CASE 3 and 50% for CASE 1) as well as achieving a 50% overall mark.

The use of supplementary examinations provided a further point of difference in the area of assessment. Neither CASE 1 nor CASE 3 had any form of additional assessment for marginal failures, but CASE 2 had a non-discretionary supplementary examination for all failing candidates scoring more than 40% overall. The combination of these last two factors undoubtedly contributed to low overall fail grades in the unit at CASE 2- 21% compared to those at CASE 3 (26%) and CASE 1(32%). There was also some evidence that the assessment (assignments and examination) in CASE 1's first accounting unit were of a more difficult standard than the equivalents at CASE 3 and CASE 2; this may contribute to the higher unit failure rates experienced at CASE 1.

5.   Concluding Remarks

The benchmarking exercise has provided the opportunity to observe and analyse both the consistency and diversity of accounting offerings at three universities. The three participating universities are far from ideal for a benchmarking analysis due to differences in size, of staffing and student enrolments, and departmental discipline focus. The findings are thus difficult to generalise, but do provide interesting observations which allow the specification of recommendations consistent with the objectives of the exercise.
There are a number of issues where the problems faced by the three universities are common or similar:

- The age profile is either already precarious, or trending in that direction. Urgent attention to succession planning is required;
- The proportion of senior staff (particularly at professorial level) is consistently small, with significant implications for leadership, mentoring and research performance. Additional senior appointments, ideally of research-active staff, were required;
- The mix of students (i.e., mature-age/school leaver; local/international; major/non-accounting major) in core courses poses particular difficulties, which will impact on student satisfaction;
- The size of the first-year accounting unit required the use of sessional, rather than permanent, staff occasionally to potentially dangerous levels. The implications for both the staff co-ordination burden and the student experience should not be underestimated. For such large courses administrative assistance must be made available to avoid staff stress and burn-out.

On the other hand there were significant differences in the way the first-year accounting unit was delivered. On the face of it, the content of the units looked remarkably similar, but deeper analysis revealed differences in both the depth and mode of delivery, most notably:

- Of the three universities only CASE 1 did not have a common-core of business units. Non-accounting majors did not compulsorily complete the first accounting unit, and correspondingly accounting majors did not necessarily complete first management or marketing units;
- There were significant differences in the delivery of the first Accounting unit. Most notably, CASE 3 operated on a (1 + 2) lecture/tutorial hours split, while both CASE 1 and CASE 2 operated on a (2 + 1) split. While the former is more resource intensive, it does provide increased student contact;
- There were significant differences in the assessment of the first accounting unit. Both CASE 1 and CASE 3 instituted an exam-performance threshold, so that students with 50% overall only passed the unit if they achieved a specified mark in the exam. No such threshold existed at CASE 2; if the student accumulated 50% overall they passed the unit, irrespective of how poor their performance in the final examination;

Comparisons based on the numbers reported for student satisfaction with unit/teacher should be treated with caution, and are not detailed here, since they are based on different survey instruments. A future project might examine the development of a new instrument with common questions, in order to improve comparability.

The impact of the introduction of business skills units was already having a big impact on both course content and resource use at CASE 2 and CASE 1, though less-so at CASE 3 where student numbers had caused particular delivery problems. The scope of these skills units suggests that they provide a benchmarking exercise of their own.

On an administrative note, given that *ranking* systems for universities are in place worldwide for various purposes, then, the question of whether some universal ranking system for schools within a faculty would be a worthwhile debate. If this system were implemented then, database and reporting mechanisms across universities would need to be homogenised to allow for accurate and relevant comparisons.

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1.2 Behavioral Issues in Accounting

DO ANALYSTS' RECOMMENDATIONS CONTRIBUTE TO THE IPO UNDERPERFORMANCE PUZZLE?

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Abstract

This study examines the returns of 3,596 firms that had initial public offerings ("IPO") in the U.S. market from 1994 to 2006. At the end of the first trading day, their shares jumped an average of 18.84% above their offering price. Yet, these firms underperform the market and non-IPO firms in similar industries with similar market capitalization and book-to-market value over the next three years.

We study how analyst recommendations contribute to the IPO long-run underperformance anomaly by examining the relationship between the buy recommendations and IPO firm abnormal returns. We find that firms with high proportion of 'buy' recommendations achieve abnormal contemporaneous returns while those with a low proportion of 'buy' in the contemporaneous period underperform. The simple 'buy' recommendations appear to be reliable sources of information on contemporaneous performance of IPO firms.

We further observe evidence that analysts may be overly-optimistic in their recommendations of IPO firms' first year of going public. IPO firms receiving high proportion of 'buy' recommendations in their first year significantly underperform the market and similar non-IPO firms over the next two years. Thus, while analysts appear to be accurate about the IPO firms' prospects initially, they may have been over-optimistic causing poor future performance. This study also finds evidence of the neglect-firm effect of IPO firms that receive little or no analyst coverage. These firms exhibit a significant contemporaneous returns premium but again underperform over the long term.

1   Introduction

Stocks of Initial Public Offer (IPO) firms should perform better than the market to compensate for the risks involved. Yet, Stern and Bornstein (2005) observe that the average new issue to return 22% less compared to the broad S&P 500 Index. Loughran and Ritter (1995) also note that an investor must invest 44 percent more money in IPOs than in non-IPOs of the same size to have the same wealth five years after the offering date. These documented "IPO underperformance puzzle" thus calls for an explanation.

In this study, we investigate whether the number of positive analyst recommendations contains information about the short term and long term prospects of IPO. Also, the limited capacity of analysts results in some IPO firms receiving little or no coverage. Firms lacking coverage may be lemons that analysts selectively avoid; or they may be neglected firms that exhibit a positive returns premium. Nevertheless, the lack of coverage can contain information to investors about the IPO. In both cases, we attempt to determine if the information conveyed by analyst coverage can explain the IPO underperformance?

Our results show us that analyst over-optimism may cause IPO underperformance. Contemporaneous abnormal returns of IPO firms compared to matched firms and the market are positively correlated with the proportion of positive recommendations. However, the long term returns of these same IPO firms lag their matched counterparts and the market over a two-year return period. We also observe that IPO firms that receive little or no analyst recommendation in their post-IPO period are neglected firms that exhibit contemporaneous positive abnormal returns. They, however, underperform over a longer two-year period.

The rest of the paper is structured as follows. The next section provides a review of the extant study on the effect of analysts' coverage on IPO firms. Section 3 discusses the hypotheses development, followed by a section detailing the methodology. Section 5 provides the analysis and discussion of the results of this study. Finally, Section 6 concludes the study, together with the limitations and possible area of future research.

2 Review of the Literature

Research on the impact that analyst has on IPO returns focuses on the timing of the analyst report, attributes of the analysts reporting and the rating given to the IPO. Green (2006) finds that early access, some as soon as 2 hours following pre-market release, to changes in recommendation yields an average 2-day abnormal returns of 1.02% for upgrades and -1.50% for downgrades. Adams (2003) reports that 'buy' recommendations released within two months of IPO result in negative one year returns but the returns will be positive if the same recommendations are made more than two months after IPO. He deduces that investors view analyst coverage in the IPO aftermarket as more valuable if released later.

The attributes of analysts examined by researchers include the number of analysts covering the stock, the affiliation of the analysts and the reputation of the analyst. McNichols and O'Brien (1997), and Das et al. (2006) find that the number of analysts covering firms with positive outlook is greater as analysts avoid firms with bleak outlook and pay attention to favorable firms. Their results are consistent with the idea that analysts shy away from issuing any public opinions when their true expectations are unfavorable and choose to provide coverage for firms for which their true expectations are favorable. These firms, thus, end up with more information and better received by investors. Bradley, Jordan and Ritter (2003) introduce the "confirmation hypothesis" that market participants will find recommendations more informative when there are multiple initiations. They find a significant positive relationship between the number of recommendations and the cumulative market-adjusted returns (CMARs) during a five-day event window centered on quiet period expiration. Das et al. (2006) hypothesize that the presence of a high unexpected analyst following should correspond to a better aggregate true expectation of the analyst community about the firm's future performance. The results of the 3-year buy and hold abnormal return from their sample of 4,082 IPOs from 1986-2000 significantly affirmed their hypothesis. In contrast, Bradley, Chan, Kim and Singh (2008) find from a sample of 2,573 IPOs issued from 1993-2003 that IPOs with high unexpected

analyst coverage underperform. Their results differ mainly because Das et al. (2006) use earnings forecasts while Bradley et al. (2008) use analyst recommendations and focus on the underwriter analysts only.

Michaely and Womack (1999) and Barber et al. (2007) observe that the IPOs with 'buy' recommendations from affiliated analyst underperform compared to those from independent ones. Their results seem to provide evidence in favor of the conflict of interest hypothesis. Similarly, James and Karceski (2006) note that favorable coverage is short-lived, disappearing on average by the 3rd analyst report written by lead underwriter analyst. They find that "booster shots" has a positive effect only in the first 30 days after IPO. McNichols et al. (2006), differentiating between short term and long term performance, observe that the market only discounts 'buy' recommendations from affiliated analysts within a three-day event window; they find no difference in performance between IPOs receiving affiliated and independent 'buy' ratings when the window is three-, six-, twelve-and twenty-four- month.

Ratings received appear to be correlated with IPO firm returns. Bradley et al. (2003), and Highfield, Lach and White (2008) find that firms that receive an average 'buy' outperform firms with an average 'hold'/'sell' rating. In addition, multiple 'buy' recommendations outperform a single 'buy' recommendation. Highfield et al (2008) present evidence that the number of 'buy' recommendations received up to three days after QPX positively influences firm returns over the one-, three-, six-, nine- and twelve-month period. 'Sell' and 'hold' recommendations exhibit no such pattern because they form only a small proportion of all recommendations. In addition, the average number of recommendations that firms received in the bear market is 2.72 (BJRW) which is higher than both the bull markets (1.72–BJR and 1.00–HLW). This suggests that analysts lend a helping hand to firms going public in a weak market by increasing the frequency of coverage.

In summary, the extant research has examined how the timing, attributes of analysts, and the ratings received affect IPO performance. There is hardly any study on how the

information content acts as a signal for the quality of the IPO that may influence the contemporaneous as well as the long term return of the IPO. This is the gap that we try to fill in this study.

3 Hypothesis Development

3.1 Information Content of Analyst Recommendations in the IPO Market

For this particular study, we examine analyst recommendations instead of earnings forecasts and growth rate projections for the following three reasons. Firstly, retail investors pay most attention and react strongest to recommendations because of the simple 'buy' or 'sell' message (Malmendier and Shanthikumar 2007). Secondly, we are interested in the value of equity analysts' recommendations to new public firms whereby the scarce historical data may render earnings estimates imprecise. Thirdly, recommendations represent "information content where the forecaster is recommending a clear and unequivocal course of action" (Elton et al. 1986). A 'buy' recommendation means that an analyst has analyzed all the available information and expects the stock to outperform.

Analysts function like "information capacitors" that discharge information when a critical amount of information is accumulated (as described in Charoenrook and Lewis, 2009). They rely on numerous sources of information (both public and private), including management of firms they cover, in forming their recommendations. It is possible that managers do not treat all analysts equally, instead favoring those who issue favorable recommendations (Chen and Matsumoto 2006). Such behavior would be consistent with research in experimental economics on "reciprocity". Analysts, however, have a duty to provide accurate information, no matter how strong the desire to please management. Therefore, we argue that analysts' strong incentives to provide accurate recommendations coupled with the motivation to gain management favor imply that the number of favorable recommendations should contain information about the favorableness of the IPO's prospects.

Bradley et al. (2003) introduce the "confirmation hypothesis" that total number of analyst recommendations has a significant positive relationship with the quiet period expiration ("QPX") returns. They argue that confirmation by different analysts is important to mitigate conflicts of interests and information asymmetry. When Highfield et al. (2008) extend the study from QPX to the post-IPO twelve months, they claim that it is the number of 'buy' recommendations, not the total number of recommendations that investors respond to.

We deduce from the above arguments that if analysts have the ability to identify long-run IPO winners and losers, and they select firms to issue 'buy' in which their true expectations are favorable, it follows that analysts' favorites - those with numerous 'buy' recommendations will contemporaneously exhibit superior returns. It follows that those with low proportion of 'buy' recommendations are not expected to perform well. We have hence, the following hypotheses.

H1A: IPO firms with high ratio of 'Buy' Recommendation to Total (BRT) outperform the market and matched firms.

H1B: IPO firms with low BRT ratio underperform the market and matched firms in the same holding period.

3.2   The Long-run Implications of Analyst Recommendations

Rajan and Servaes (1997) study the long-run implications of analysts' long-term earnings growth projections on IPO firms, using the first forecast made in the year following the IPO. They find strong evidence suggesting firstly, forecasts for IPOs are more optimistic than for seasoned firms. Secondly, there is a significant negative relation between the forecasts and long-run IPO returns. They attribute the IPO underperformance puzzle to analysts' over-optimism.

Dugar and Nathan (1995) , Lin and McNichols (1998) , Michaely and Womack (1999) and Dechow et al. (2000) among others document that analysts are overly optimistic around equity offerings with the affiliated analysts issuing more favorable stock recommendations and

more optimistic growth forecasts. Yi et al. (2008) report that the level of optimism in analyst

forecast increases within twelve months following equity issues.

We argue that in the market of relatively unknown new public firms, with analysts facing

various conflicts of interests and trying to gain favor with firm management, analysts'

recommendations in the first twelve months may be overly-optimistic with the subsequent

performance of such firms suffering. Thus we hypothesize that:

H1C: IPO firms with high BRT ratio in the first year of IPO underperform the market and

   matched firms in the subsequent two years.

3.3   Firms with Little or No Analyst Recommendation

Next, we are also interested in the group of IPO firms that receive little or no analyst

recommendations. The "differential information hypothesis" proposes the relationship between

firm neglect and small firm size effect. Elfakhani and Zaher (1998) find evidence that individual

investors could earn higher returns on stocks that receive scant coverage by financial analysts

in the 1986-1990 period. They attribute this to the "neglect-firm effect" where small firms

neglected by analysts' investors, financial analysts, and other investment agencies suffer from

the lack of public information and therefore, small uninformed investors require additional

returns as a risk premium for holding them. We posit that the level of recommendation proxies

for the firm neglect effect that result from analyst selectivity in coverage.

We hypothesize that the IPO firms with only one recommendation are neglect firms

because most analysts have dropped coverage on them. Therefore, we expect them to exhibit a

returns premium. As the majority of the single recommendations are 'buy', we further postulate

that these might be the "booster shots" that are pre-IPO committed. Many researchers report

empirical evidence that affiliated analysts' favorable coverage and "booster shots" are short-

lived with only positive effects in the first 30 days after IPOs (see James and Karceski 2006, and

Bradley, Chan, Kim and Singh 2008). Alternatively, it is logical that analyst drop coverage on

them because they predict them to be IPO losers not worthy of placing any effort to follow. The selective coverage behavior of analysts postulates that they rather drop coverage than to issue 'sell' recommendations when their true expectations on firms are unfavorable. Hence, we have the following hypotheses.

H2A: IPO firms with only one 'buy' recommendation are either neglected firms that exhibit positive returns premium vis-à-vis other firms, or firms that analysts deemed unworthy to follow and hence exhibit the worst underperformance vis-à-vis other firms.

H2B: IPO firms with "booster shots" should have no long-run implications on performance.

We also note that there are IPO firms with zero analyst recommendation and wish to investigate why analysts are silent on these firms. One possibility is that they are neglect firms as well. Alternatively, analysts deem them unworthy to follow. Analysts face multiple conflicting incentives which are further aggravated by their limited resources and the huge pool of stocks to follow in the capital markets. Their decision to initiate coverage and follow a stock is thus not a random act. Anecdotal reports are also consistent with the notion that analysts' underlying expectation is a potential determinant in recommending newly public firms: "The burgeoning IPO market makes it tough for analysts to follow every deal. …With so many deals coming through, at some point analysts have to pick and choose, and they are going to choose the companies with great long-term prospects. That is how their firms make money" (Finegan, Useem and Mamis 1996). Our final hypothesis is:

H3: IPO firms with no recommendation are either neglected firms that exhibit positive returns premium vis-à-vis other firms, or firms that analysts deemed unworthy to follow and hence exhibit the worst underperformance vis-à-vis other firms.

4   Methodology

4.1 Variables

Table 1 shows the proxies for the variables used in this study. Our study requires the computation of abnormal buy-and-hold returns for multiple post-IPO holding periods T = 12, 24 and 36 months. Two returns measures are used: buy-and-hold returns in excess of the market (VWBHAR), and buy-and-hold returns in excess of matched firms (MFBHAR). The strength of analysts' recommendation is computed by "Buy Relative to Total Recommendations" (BRT). Using the BRT ratio instead of the raw number of 'buy' recommendations normalizes the recommendation index to allow comparison among firms. Ceteris paribus, the higher the BRT, the more highly recommended the firm is by analysts. BRT takes on the highest value of one when all recommendations are 'buy'.

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INSERT TABLE 1 ABOUT HERE

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Excluding the firms with one 'buy' and zero recommendations, we further segregate the firms into three groups (low, medium and high) based on BRT. Our second and third main variables of interest are dummy variables Dum_HighBRT and Dum_LowBRT with values equal to one when firms fall into the respective High BRT and Low BRT groups and zero otherwise. In addition, we create the third dummy variable Dum_OneBuy, to represent firms with only one 'buy' recommendation within period T. Since firms with only one 'buy' recommendation will have BRT equal to one, they might be mistaken for "analysts' darlings". Dum_OneBuy controls for that. In addition, we posit that these single buy recommendations may be "booster shots" that are pre-IPO committed. Dum_ZeroRec is a dummy variable for firms with zero recommendation within period T.

Twelve control variables are included in our study. The first control variable is the number of analysts providing recommendations for a firm for period T (NumAna). The second control variable is the divergence of analysts' recommendations (Divergence). It is the standard

93

deviation of the analysts' recommendations for period T published in I/B/E/S. A high value of Divergence signifies that the recommendation is made in a "noisy" environment with greater divergence from the consensus recommendation. Firms with values of Dum_OneBuy or Dum_ZeroRec equals to one will have Divergence equals to zero. The third control factor is the initial returns of the IPO firms (InitialR). It is the return between the IPO price and the first aftermarket closing price listed on CRSP. This represents what investors will earn by buying the IPO shares at the offer price and selling them at the end of the first trading day. The fourth control factor is a dummy variable for venture-capital backing (Dum_VC). The fifth control factor is the age of the firm at the time of IPO (Age). The sixth control factor is a dummy variable for NASDAQ listing (Dum_NASDAQ). The seventh control factor is the capital asset pricing model ("CAPM") beta relative to the CRSP Value-Weighted Index and Fama risk free rate (Beta). This is to proxy for the market risk in the Fama and French three factor model. Their measure is an ex-ante beta and since it is impossible to calculate ex-ante beta for IPO firms as they do not have share prices prior to listing, we calculate ex-post beta. The eighth control factor is the size of the firm (Size). The ninth control factor is the book-to-market value (BMV). We compute MCAP and BV at the first month-end of IPO for matching firm purposes. The tenth control factor is the annual IPO volume (IPOVol). The eleventh control factor is dummy variable to represent firms that are delisted within 36 months of the IPO (Dum_Delisted). The final set of control factors are the 17 dummy variables that represent the industry sectors grouped by NAICS ($DumInd_k$).

4.2   Data

A list of all the firms that completed their initial public offerings in the U.S. and subsequently listed on the Center for Research in Security Prices ("CRSP") is obtained from Ritter's website (Ritter, 2008). This dataset (updated in 2008) contains the names and CRSP permanent IDs ("PERMNO") of the firms that went public between 1975 and 2008. For data on

IPO firm characteristics, we download the entire New Issues dataset in Securities Data Corporation ("SDC"). Data pertaining to returns, prices, number of outstanding shares and the like are retrieved from CRSP.

Our original sample contains 4,287 firms that went public in 1994-2006[6] period. We drop firms that are de-listed, American Depositary Receipts (ADRs), IPO firms with offer price less than $3, firms that have their first-day closing price listed on CRSP more than three calendar days from the offer date, firms with insufficient data to compute returns and those with negative book values from our study. Our final sample consists of 3,596 firms (for 12-month holding *period)*, 3,116 firms (for 24-month holding period) and 2,167 firms (for 36-month holding period) that completed their IPOs between January 1994 and December 2006. Firms that completed their IPOs in 2006 are analyzed using the 12 and 24-month holding period returns only.

We obtain the IPO offer price, firm founding year, venture-capital backing and total proceeds (including oversold) for the entire U.S. IPO market from SDC New Issues dataset. Stock returns, monthly closing prices and number of outstanding shares are retrieved from CRSP - Returns + Decile Assignments database with the event time window starting from the IPO offer date ending 36 months later. Book values, exchange listing and NAICS industry classification are retrieved from CRSP/COMPUSTAT Merged Database - Price, Dividends, and Earnings (Annual Format) database.

The following procedure is employed to select matched firms for our sample IPO firms. For each IPO firm, we first compute its MCAP and BMV at the first calendar month-end of the IPO offer date, which is the reference point for matching[7]. To find a matching firm within the

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[6] The sample period of 1994–2006 is chosen to maximize the availability of analyst recommendations on I/B/E/S *(data availability: Oct 1993-Mar 2008)*. As Bradley et al. (2003) noted, we do recognize that I/B/E/S coverage may be less complete in the beginning years of our sample period, resulting in the possibility of labeling some firms as having received no analyst recommendations when, in fact, they did.

[7] However, due to issues like missing data and negative book values, some IPO firms cannot be matched immediately at the first month-end of IPO. We look to the next month-end for data. Our sample IPO firms are

same industry as the IPO firm, we compute the MCAP and BMV available from the CRSP monthly database for each non-IPO firm at the same calendar month-end. From all the non-IPO firms with MCAP value that is from 80% to 120% that of the IPO's MCAP, we select the one with the closest BMV as the matched firm. If a matching firm is not available, a small firm within the same industry is selected to avoid the small firm effect that Ritter (2006) finds in IPO underperformance. In more than 800 of our 3,596 IPO firms, the original matching firms are de-listed within 36 months following the IPO date. Therefore, we select the next best matching firm that provides sufficient data to compute the matched firm buy-and-hold returns. In sum, our sample IPO firms are matched to non-IPO firms within the same industry on the basis of similar MCAP and BMV.

Data on analyst recommendations is obtained from Thomson Financial Institutional Brokers Estimate System ("I/B/E/S") through the Wharton Research Data Services ("WRDS"). I/B/E/S maintains a standard set of recommendations on a five-point rating scale, where '1' represents 'strong buy', '2' represents 'buy', '3' represents 'hold', '4' represents 'underperform' and '5' represents 'sell'. We convert the data to a three-point scale in which 'buy': rating of '+1' *(equivalent to 'strong buy' and 'buy' in I/B/E/S)*, 'hold': rating of '0' (equivalent to 'hold' in I/B/E/S) and 'sell': rating of '-1' *(equivalent to 'underperform' and 'sell' in I/B/E/S)*. We also utilize the I/B/E/S Recommendations - Summary Statistics (Consensus Recommendations)[8] file for the monthly market consensus recommendation.

4.3 Model

In this study, we propose two models to test our hypotheses. One is a contemporaneous model and the other, a lead lag model to examine the long term performance. The contemporaneous model has the following equation.

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matched within the first six months after their IPO, based on the first available MCAP and BMV values.
[8] I/B/E/S publishes a monthly consensus based on the average recommendation rating for each stock.

$MFBHAR_{iT}$ = α + $\beta_1 Dum\_HighBRT_{iT}$ + $\beta_2 Dum\_LowBRT_{iT}$ + $\beta_3 Dum\_OneBuy_{iT}$ +

$$\beta_4 Dum\_ZeroRec_{iT} + \sum_{i=5}^{32}(V_{iT}) \tag{1}$$

Where T = 12, 24 and 36; and V_{iT} are the control variables given in Table 1.

This model, also analyzed with $VWBHART_{iT}$ as the dependent variable, examines the contemporaneous relationship between the abnormal performance of IPO firms and the favorableness of analysts' recommendations. Excluding those firms with zero and single recommendation, we assign the remaining firms into low, medium and high *BRT* groups according to the scale[9] below for each holding period under study. Table 2 summarizes the number of firms within each *BRT* group, together with those that has zero or one recommendation within the three holding periods. Table 2 shows that the number of firms with one hold or sell recommendation within period *T* to be small. Since no meaningful tests can be conducted with such a small sample size, these will not be included in our model.

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If analysts' recommendations are indeed accurate about the contemporaneous IPO performance, we expect firms with high (low) *BRT* to outperform (underperform) the market and matched firms. That is, the coefficient (β_1) for *Dum_HighBRT$_T$* is positive, indicating superior performance vis-à-vis the market and matched firms; while the coefficient (β_2) for *Dum_LowBRT$_T$* is negative. As for the firms with one 'buy' and no recommendations, we postulate that since analysts either drop coverage or do not even initiate coverage on them, they may be neglected firms that will exhibit a returns premium. Alternatively, they may be the firms that analysts predict to be long-run IPO losers – the lemons that exhibit the worst performance of all firms. The expected signs of the coefficients from our hypotheses are:

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[9] The cut-off score for the BRT groups is derived from the 36-month sample with the aim of attaining three equal-sized groups of firms with at the best possible.

97

H2B: $\beta_1 > 0, \beta_2 < 0$; H3A: $\beta_3 = 0$ (null); H4: $\beta_4 = 0$ (null)

The above models will provide the models for testing the relationship between analyst recommendations and contemporaneous returns. To investigate the long-run implications of analysts' recommendations, we propose a lead-lag model to isolate the returns for the time period following the recommendations. The lead variable is the *BRT* ratio in the first twelve months, while the lag variable is the *MFBHAR* in the next twelve to twenty-four months. The equation for the model is shown below.

$$MFBHAR_{iT} = \alpha + \beta_1 Dum\_HighBRT_{12} + \beta_2 Dum\_LowBRT_{12} + \beta_3 Dum\_OneBuy_{12} +$$
$$\beta_4 Dum\_ZeroRec_{12} + \sum_{i=5}^{32}(V_{iT}) \tag{2}$$

where $T = 13\text{-}24$ and $13\text{-}36$; and V_{iT} are the control variables given in Table 1.

We also run our regression using $VWBHART_{iT}$ as dependent variable. We hypothesize that analysts are over-optimistic in recommending newly public firms in the first year of their IPO. Those firms that are highly recommended by analysts will underperform the market and matched firms in the subsequent two years. We also hypothesize that firms with one 'buy' recommendation are firms which received a "booster shot" that is pre-IPO committed should not have any implications on the long-run performance. In a nutshell, we hypothesize that:

H1B: $\beta_1 < 0$; H2B: $\beta_3 = 0$ (null); H3: $\beta_4 = 0$ (null)

5 Data Analysis and Discussion

5.1 Descriptive Data

Our sample comprises of 83.9% of the total IPO firms in the U.S. market during the 1994-2006 period. Table 3 presents descriptive statistics for the sample data. Panel A describes the IPO firm characteristics. An investor buying shares at the IPO price and selling at the end of the first trading day enjoys returns of 18.84%. This positive initial returns ("InitialR") is consistent with the (short-run) under-pricing anomaly documented in the literature that the

majority of IPOs see a jump in their stock price on the first trading day. This value is close to the 18.80% reported in Ritter and Welch (2002)[10]. The mean age[11] of the firms at the time of IPO is 15.45 years. Venture capitalists back 39.74% of the IPOs in this study. Approximately 83% of the firms are listed on the NASDAQ. By the ex-post measure of the capital asset pricing model ("CAPM") beta, our IPO firms are more risky than the market with a mean beta of 1.634. Loughran and Ritter (1995) also find that the beta is higher for IPO firms than for non-IPO firms. They argue that these firms should therefore have higher, not lower long-run returns. The mean market capitalization ("MCAP") and book-to-market value ("BMV") of our IPO firms are $586,840 and 1.7537 respectively, measured at the first month-end of the IPO[12].

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Panel B describes the strength of analyst recommendation for holding periods of 12, 24 and 36 months. In this study, the classification of analyst recommendations is on a three-point scale of 'buy' (favorable), 'hold' (neutral) and 'sell' (unfavorable). Our sample of 3,596 IPO firms is reduced to 3,118 (24 months) and 2,171 (36 months) with firms being delisted over time. In the first year of IPO, 73.79% of the recommendations received by the firms are a 'buy' rating ("*BRT*"), 14.67% are 'hold' ("*HRT*") and 1.03% are 'sell' ("*SRT*"). 10.51% of the firms are not covered by any analysts. On average, each firm is covered by four analysts who provide recommendations with the mean divergence (standard deviation of recommendations) of 0.4238. The number of analysts increases to approximately eight with a mean divergence of 0.5239 for the three-year holding period. While *BRT* decreases to 66.81% for the three year holding period,

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[10] Authors provide a review of the IPO activity, pricing and allocations in the U.S. market for the period 1980-2001.
[11] Age is measured by the natural logarithm of one plus the difference between the IPO and the founding year.
[12] These values are computed when we match our sample IPO firms to control (non-IPO) firms.

HRT and *SRT* increase to 24.09% and 2.43% respectively. The proportion of firms not covered decreases to 6.69% as well. Over the three years, even though *BRT* declines, it is still much higher than *HRT* and *SRT*. This is consistent with the literature that analyst recommendations are typically favorable (see Bradley et al. 2003)[13].

We also analyzed but not shown here the changes in recommendation changes over time. The total number of recommendations for IPO firms decreases by 47.3% from 22,207 in the IPO year to 11,703 by the third year. The total number of 'buy' recommendations sees an even greater decline of 59.79% from 17,283 to 6,949 by the third year even though the sample size decreases by only 39.7% 3,596 firms to 2,167 firms. These findings provide evidence that analysts revise their expectations on IPO firms downwards after the first year of IPO.

Panel C displays the Pearson correlation matrix of the variables. Even though all the correlations are significant, the correlation between the variables is generally low with the exception of the correlation between 1) BRT_{12} and $ZeroRec_{12}$ ($\rho=-0.8003$) which is expected since they are mutually exclusive, 2) $Size_{12}$ and $NumAna_{12}$ ($\rho=0.6710$), consistent with the fact that larger firms attract more analysts following and 3) BHR_{13-24} and BHR_{13-36} ($\rho=0.6447$) which contains overlapping data. We find a positive relation between the number of analysts providing recommendations and the firm size, initial returns, beta, venture-capital backing and annual IPO volume. These observations, similar to that of Pearson (1992) and Rajan and Servaes (1997), indicates attributes of IPOs that spark analyst interest in following IPO firms.

5.2 Multivariate Analysis

We run the GMM regressions given in equations (1) and (2) to examine the relationship between analyst recommendations and IPO performance. Running this regression allows us to control for joint effects and correct for heteroskedasticity.

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[13] Authors examine 1,611 IPOs from 1996-2000. They find about 96% of all recommendations are either 'strong buy' or ''buy'' (63% are ''buy''). Out of 2,747 recommendations, there is only one rating of 'hold' and not a single 'sell'.

Table 4 presents the results for the contemporaneous model using $MFBHAR_T$ and

$VWBHAR_T$ as dependent variables. The adjusted R^2 values are in the range of 21.90% to

52.12%, signifying a relatively strong explanatory power. Hypothesis H1A suggests that the

coefficient estimate on Dum_HighBRT_T will be positive ($\beta_1>0$). The regression results support

this hypothesis in every holding period showing that IPOs with high proportion of 'buy'

recommendation have higher contemporaneous returns compared to the market returns and

matched firms. It is clear that for the contemporaneous case, IPOs with high analyst ratings

outperform the market and matched firms. Our hypothesis in H1B suggests that the coefficient

of Dum_LowBRT$_T$ ($\beta_2<0$) will be negative. We find strong results in favor of this. IPOs with

relatively low proportion of 'buy' ratings do worse compared to the market and matched firms.

There is thus, some evidence that the analyst information accurately predicts the returns

outcome for the IPOs in the short term. H2A suggests that since we apriori have conflicting

reasons why the IPOs have only one recommendation, we expect the coefficient of

Dum_OneBuy_T equals to zero ($\beta_3=0$). The results, however, strongly show that IPOs with one

'buy' recommendation outperforms the matched firms and the market over the 12- and 24-

month holding periods. It thus appears that these IPOs are exhibiting the neglect-firm effect that

provides the risk premium to investors to account for the lack of information. For hypothesis H3,

we expect the coefficient of $Dum\_ZeroRec_T$ to be equal to zero ($\beta_4=0$). The results show that β_4

is significantly greater than zero providing compelling evidence that firms which receive zero

recommendations are neglected firms that with higher returns to justify the risk of holding them.

We thus find compelling evidence of the neglect-firm effect for two classes of IPOs: those with

only one 'buy' recommendation and those with zero recommendation. Overall, the results of our

contemporaneous model in Table 4 support H1A, H1B and clarify the direction of H2A and H3.

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INSERT TABLE 4 ABOUT HERE

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Table 5 presents the results of the lead-lag model used to test our hypothesis on the long term effect of analysts' recommendations. The dependent variables are the one-year abnormal holding period return in the second year after IPO and the two-year abnormal holding period return spanning the second and third year after IPO. The returns of the IPOs are compared with matched firms ($MFBHAR_T$) and the market ($VWBHAR_T$). The adjusted R^2 values are in the range of 3.71% to 34.80%. Our hypothesis in H1C suggests that the coefficient of $Dum\_HighBRT_T$ should be negative ($\beta_1<0$). The results strongly support this hypothesis that IPOs with high percentage of 'buy' ratings underperform matched firms and the market over the long term. It appears that the analyst recommendation for these IPOs may initially be over-optimistic resulting in overvaluation which causes subsequent reversion to its fundamental value. From H2B, we expect the coefficient of Dum_OneBuy_T to be equal to zero ($\beta_3 = 0$) as we expect these to be one-time booster shots with no long term performance implications.   Here, we are unable to reject the null hypothesis for the second year returns (13-24 months). This indicates that firms with one 'buy' recommendations in the first year of IPO significantly underperform the market and matched firms in the following year, concurrent with the period that usually sees the most severe IPO underperformance. Such "booster shots" however has no implications over the two year holding period (13-36 months), where our hypothesis H2B is supported. Our last hypothesis H3 posits that IPO firms with zero coverage are either neglected firms that exhibit positive returns premium vis-à-vis other firms, or firms that analysts deemed unworthy to follow and hence exhibit the worst underperformance vis-à-vis other firms. Our results show that the coefficient of $Dum\_ZeroRec_T$ is significantly negative for matched firms and the market for the second year returns and for the market for the third year returns. Taken together with the positive results for the contemporaneous model in Table 4, we thus gather that investors may have initially overpaid for IPO firms with no recommendations, resulting in long term underperformance. Overall, the result in our lead-lag model support H1C, reject H2B and tilts

our understanding of H3 towards the view that firms with no recommendation are overpriced after the first year.

H1A, H1B and H1C relates the proportion of 'buy' recommendation to IPO firms' returns performance relative to matched firms and the market in order to investigate the information content in analysts' 'buy' recommendations. Our results find significant support for H1A and H1B that IPO firms with more recommendations perform better contemporaneously while those with lower proportion perform worse. However, we find from H1C that over the long term, firms with greater proportion of 'buy' recommendation perform worse that matched firms and market. We thus can conclude that while contemporaneous information from the analysts tracks the IPO performance, the same information is not relevant for the long term. Analysts' over-optimism in new public firms may account for this observation. Research analysts are confronted with conflicts of interests that might adversely affect their objectivity. The "Global Research Analyst Settlement" with twelve major investment banks in 2001 has uncovered bias in analysts' coverage. Beyond biased coverage, analysts may not possess superior information about new public firms compared to the market. Since the decision to choose underwriters for IPO firms has always been heavily influenced by the quality and extent of aftermarket research coverage that they can provide, IPO firms will gravitate towards underwriting firms that can provide favorable recommendations that may not necessarily add substantial long-run shareholder value. Thus, investors may bid up the prices of such firms above their fundamental value when analysts are "hot" about them, and drive down the prices down to their fundamental when the realization that the firms are overvalued hits. It is thus, not unreasonable to ascribe long-run IPO underperformance to analysts' over-optimism.

What about IPO firms that are neglected by analysts. Our results pertaining to Hypotheses H2A and H3 finds that IPO firms with one or zero recommendations behave like neglected firms in the short term and show positive abnormal returns to account for the risk compared to matched firms and the market. Over the long term, these IPO firms fail to

outperform and in many instances underperform compared to matched firms and the market. The outcome these firms face is thus similar to firms that encounter analyst over-optimism – positive abnormal contemporaneous returns and negative long term abnormal returns. We however, cannot reject the possibility that analysts are able to identify the long-run IPO losers and they choose not to follow them right from the beginning of the IPO.

6   Conclusion, Limitations and Future Research

The long-run underperformance of IPO firms is a well-documented anomaly in the literature. In this paper, we try to understand the underperformance puzzle by looking at analyst recommendations. We examine 3,596 firms that completed their IPOs in the U.S. market during the period of 1994-2006. This study presents five key findings. First, we find evidence that analysts can collectively inform the market accurately about the contemporaneous performance of IPO firms through the proportion of 'buy' recommendations. There exists a significant positive relationship between the proportion of 'buy' recommendations and the contemporaneous abnormal returns of IPO firms. Second, we find that firms that are ascribed a low proportion of 'buy' recommendations significantly *underperform* matched firms in the contemporaneous period. Our results suggest that the interaction between analyst recommendations and firm resultant firm performance is dynamic and complex. In such an information environment where a "feedback loop" between analyst and the IPO firm may exist through the practice of "earnings guidance", analyst recommendations appear to contain information about the true prospects of firms.

Third, our study provides information about the implications of analyst recommendations on IPOs for buy-and-hold investors. Our results indicate that for an investor who buys the shares of "analysts' darlings" that contemporaneously exhibit superior outperformance at the end of the first year, and holds them for the next two years, will find that their investments will significantly underperform the market and matched firms. Consistent with the literature, our

104

results suggest that analysts might be overly-optimistic in recommending 'buy' for some IPO firms in the initial year of listing. The "analysts' darlings" turned out to be a disappointment for the buy-and-hold investors, just like how the highly recommended stocks turned out to be disasters during the technology bubble.

Fourth, this study finds compelling evidence of the neglect-firm effect in IPO firms with little or no analyst coverage. Such firms earn significant contemporaneous returns premium but underperform in the long run. Traditionally, the neglect-firm effect has been attributed to the small size of the firm. Even though our sample firms with no coverage are indeed smaller firms, we argue that the lack of analyst coverage, professional analysis and information flow to the market about such new public firms result in uninformed investors demanding higher expected returns. This is consistent with our findings that that the number of analyst providing recommendations and the level of divergence in recommendations inversely impact the long-run performance of IPO firms. Fifthly, we find that the neglected firms with one 'buy' or with zero recommendations underperform the market and matched firms over the long term. It is possible that the investors have chased the price of these IPOs up too high in the first year and the underperformance in the second and third year reflects the price aligning with the fundamental values of the firms.

A limitation of this research is the lack of data on analyst recommendations, thus restricting our study to a period of thirteen years. If reliable data could be retrieved for a longer sample period, we could provide results that can be more generalizable. In addition, if the characteristics of the individual analysts providing recommendations for the IPO firms are collected, a richer and more insightful analysis can be obtained.

The following areas are potential areas for further research. The literature suggests that issuers value analyst coverage and willingly under-price issues to "purchase" favorable coverage. Therefore, the relation of under-pricing and how it attracts analysts following, and the resulting implications on the long-run performance can be examined concurrently in greater

extent. In addition, the "hot" market issue is another interesting area to explore in terms of whether market conditions itself has an effect on long run underperformance.

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Table 1 Variables Used in the Study

Variables	Notation	Formula	Remarks
Matched Firm Adjusted Buy-and-Hold Abnormal Returns	MFBHAR_{iT}	$$\prod_{t=1}^{T}(1+R_{iT})-\prod_{t=1}^{T}(1+R_{jT})$$	R_{jT} is the dividend-adjusted return for (non-IPO) size, book-to-market and industry matched firm T = 12, 24, 36
Value Weighted Market Adjusted Buy-and-Hold Abnormal Returns	VWBHAR_{iT}	$$\prod_{t=1}^{T}(1+R_{iT})-\prod_{t=1}^{T}(1+R_{mT})$$	R_{mT} is the monthly market returns T = 12, 24, 36
Buy Relative to Total Recommendations	BRT_{iT}	$$\frac{No.of\ Buy\ \mathrm{Re}commendations\ within\ period\ T}{Total\ No.of\ Buy\ \mathrm{Re}commendations\ within\ period\ T}$$	T = 12, 24, 36
High BRT	Dum_HighBRT_{iT}	Dummy Variable = 1 if firm i is classified into the high BRT group within period T and 0 otherwise	-
Low BRT	Dum_LowBRT_{iT}	Dummy Variable = 1 if firm i is classified into the low BRT group within period T and 0 otherwise	-
One Buy Recommendation	Dum_OneBuy_{iT}	Dummy Variable = 1 if there is one recommendations and it is a 'buy'for firm i within period T and 0 otherwise	-
Zero Recommendation	Dum_ZeroRec_{iT}	Dummy Variable = 1 if there are zero for firm i within period T and 0 otherwise	-
Number of Analysts	NumAna_{iT}	Number of analysts providing recommendations for firm i within period T	-
Divergence of Recommendations	Divergence_{iT}	$$\sqrt{\frac{\sum(\mathrm{Re}c-\mathrm{Re}c_{average}}{N}}$$	Standard deviation of the analysts' recommendations
Initial Returns	InitialR_{i}	$$\frac{First\ Day\ Clo\sin g\ \mathrm{Pr}ice-IPO\ Issue\ \mathrm{Pr}ice}{IPO\ Issue\ \mathrm{Pr}ice}$$	-
Venture Capital Backed	DumVC_{i}	Dummy Variable = 1 if the IPO is backed by venture-capital and 0 otherwise	-

Table 1 Variables Used in the Study (continued)

Variables	Notation	Formula	Remarks
Firm AGE	Age_i	Ln [1 + (Year of IPO – Year of Founding)]	Age of firm at the time of IPO
NASDAQ Listing	Dum_NASDAQ_{iT}	Dummy Variable = 1 if firm i is trading on NASDAQ at time T and 0 otherwise	-
CAPM Beta	$Beta_i$	Slope of regression of $$\sum_{t=1}^{T}(R_{it} - R_{ft})\ on\ \sum_{t=1}^{T}(R_{mt} - R_{ft})$$	R_{it} is the dividend-adjusted return for (IPO) firm i in month t, R_{mt} is the return of CRSP Value-Weighted Index and R_{ft} is the Fama 1-month risk free rate in month t
Firm Size	$Size_{iT}$	$Ln(MCAP_{iT})$ $MCAP_T$ = Number of shares outstanding x closing price on the last trading day of period T	Market value of IPO firm
Book-to-Market Value	BMV_{iT}	$$\frac{Book\,Value_{iT}}{MCAP_{iT}}$$	Book value is observed at the last fiscal year end within period T
Annual IPO Volume	$IPOVol_T$	ln (Total IPO proceeds including oversold in the calendar year of IPO)	-
Delisted Firms	$(Dum_{Delisted})_i$	Dummy Variable = 1 if firm i is delisted within 36 months after IPO and 0 otherwise	-
Industry	$(DumInd_k)_i$	Dummy Variable = 1 if firm i falls within the industry sector denoted by k and 0 otherwise	-

Table 2 Distribution of Recommendations Over Multiple Holding Period

T	N	Zero Rec	One Hold/ Sell	One Buy	Low BRT	Medium BRT	High BRT
					0 =< BRT <= 0.625	0.625 < BRT <= 0.8	0.8 < BRT <= 1
12	3,596	378	15	171	564	695	1,773
24	3,118	236	11	73	794	888	1,116
36	2,167	145	5	31	648	714	624

Table 3 Descriptive Statistics of Sample

BRT, HRT and *SRT* represent the ratio of buy, hold and sell relative to the total number for recommendations within period T respectively.

N represents the number of observations.

***, **, * signify if the estimate is statistically significant at the 1%, 5% and 10% levels respectively.

Panel A: IPO Firm Characteristics

Variables	N	Mean	Median	Min	Max	Std. D.
InitialR (%)	3,596	18.8372***	10.4189	-2.9412	75.0000	0.2326
Age	3,596	2.1715***	2.0794	0.0000	5.1705	1.0071
Dum_VC	3,596	0.3974***	0.0000	0.0000	1.0000	0.4894
Dum_NASDAQ	3,596	0.8242***	1.0000	0.0000	1.0000	0.3807
Beta	3,596	1.6340***	1.3999	-1.0770	5.3268	1.6601
MCAP ('000)	3,596	586.8400***	177.5400	6.6572	9,164.55	1,289.50
BMV	3,596	1.7537***	0.2009	0.0030	79.9386	10.2286
IPOVol	3,596	10.8168***	10.9120	10.3954	11.2035	0.2480

Panel B: Strength of Analyst Recommendations

T = 12	N	Mean	Median	Min	Max	Std. D.
BRT	3,596	0.7379***	0.8333	0.0000	1.0000	0.3238
HRT	3,596	0.1467***	0.0000	0.0000	1.0000	0.1960
SRT	3,596	0.0103***	0.0000	0.0000	1.0000	0.0487
ZeroRec	3,596	0.1051***	0.0000	0.0000	1.0000	0.3067
NumAna	3,596	4.2464***	4.0000	0.0000	38.0000	3.5616
Divergence	3,596	0.4238***	0.5200	0.0000	2.1200	0.4022
T = 24	N	Mean	Median	Min	Max	Std. D.
BRT	3,116	0.6886***	0.7333	0.0000	1.0000	0.2793
HRT	3,116	0.2169***	0.2000	0.0000	1.0000	0.1916
SRT	3,116	0.0188***	0.0000	0.0000	0.5000	0.0520
ZeroRec	3,116	0.0757***	0.0000	0.0000	1.0000	0.2645
NumAna	3,116	6.5205***	5.0000	0.0000	49.0000	5.6102
Divergence	3,116	0.5281***	0.5800	0.0000	2.8300	0.4125
T = 36	N	Mean	Median	Min	Max	Std. D.
BRT	2,167	0.6681***	0.6970	0.0000	1.0000	0.2565
HRT	2,167	0.2409***	0.2500	0.0000	1.0000	0.1772
SRT	2,167	0.0241***	0.0000	0.0000	0.7500	0.0550
ZeroRec	2,167	0.0669***	0.0000	0.0000	1.0000	0.2499
NumAna	2,167	8.1737***	6.0000	0.0000	54.0000	7.1544
Divergence	2,167	0.5239***	0.5800	0.0000	2.1200	0.4248

Panel C: Pearson Correlation Matrix

This table presents the Pearson Correlation matrix with all correlations significant at the 1% level with the exception of *VC* and *Divergence$_{12}$* which is significant at 5%.
Definitions of the variables can be found in Table 1.

	BHR$_{12}$	BHR$_{13\text{-}24}$	BHR$_{13\text{-}36}$	BRT$_{12}$	ZeroRec$_{12}$	OneBuy$_{12}$	NumAna$_{12}$	Divergence$_{12}$	InitialR	Age	VC	NASDAQ$_{12}$	Size$_{12}$
BHR$_{13\text{-}24}$	0.0118												
BHR$_{13\text{-}36}$	-0.0317	**0.6447**											
BRT$_{12}$	0.1258	-0.0385	-0.0094										
ZeroRec$_{12}$	-0.0522	0.0104	-0.0099	**-0.8003**									
OneBuy$_{12}$	-0.0142	0.0292	-0.0038	0.1682	-0.0746								
NumAna$_{12}$	0.1780	-0.0952	-0.0842	0.2538	-0.4077	-0.2003							
Divergence$_{12}$	0.0383	-0.0106	-0.0133	0.0917	-0.3523	-0.2292	0.4664						
InitialR	-0.0569	-0.1660	-0.1653	0.0666	-0.0746	-0.1086	0.3373	0.1320					
Age	-0.0076	0.0310	0.0436	0.0654	-0.1423	-0.0414	0.0658	0.1131	-0.1418				
VC	0.0025	-0.0362	-0.0529	0.1820	-0.2047	-0.0256	0.1743	**0.1033**	0.2261	-0.1948			
NASDAQ$_{12}$	-0.0046	-0.0339	-0.0186	0.0144	0.0639	0.0297	-0.1686	-0.1027	0.1571	-0.2432	0.2426		
Size$_{12}$	0.4685	-0.0945	-0.0710	0.3297	-0.4342	-0.1732	**0.6710**	0.3915	0.3176	0.0883	0.1308	-0.2582	
BMV$_{12}$	-0.3445	-0.0793	-0.1231	-0.1228	0.0970	0.0144	-0.1166	-0.0567	0.0315	-0.0806	0.0418	0.0613	-0.3299

Table 4 Result of the GMM Regression for the Contemporaneous Model Investigating Abnormal IPO Returns and Analyst Recommendations

The sample is 3,596 U.S. IPO firms that went public between January 1, 1994 and December 31, 2006. The dependent variables are the matched firm buy-and-hold abnormal returns ("$MFBHAR_T$") and CRSP Value-Weighted Index buy-and-hold abnormal returns ("$VWBHAR_T$") for period T = 12, 24 and 36.

N represents the number of observations.

***, **, * signify if the estimate is statistically significant at the 1%, 5% and 10% levels respectively

CM2	Variable	$MFBHAR_{12}$	$MFBHAR_{24}$	$MFBHAR_{36}$	$VWBHAR_{12}$	$VWBHAR_{24}$	$VWBHAR_{36}$
	C	0.8964	-1.6677**	-5.4251***	-0.1565	-4.4483***	-10.2511***
		(1.4916)	(-2.479)	(-3.0513)	(-0.3106)	(-9.8315)	(-7.824)
β_1	**Dum_HighBRT$_T$**	0.1375***	0.2158***	0.4985***	0.1168***	0.1888***	0.4705***
		(4.0874)	(5.7655)	(4.1186)	(4.2142)	(7.5645)	(5.2036)
β_2	**Dum_LowBRT$_T$**	-0.0588*	-0.1112***	-0.2140**	-0.0541*	-0.0550**	-0.1695***
		(-1.6540)	(-3.0986)	(-2.3698)	(-1.8636)	(-2.2827)	(-2.7841)
β_3	**Dum_OneBuy$_T$**	0.2366***	0.3808***	-0.2027	0.2571***	0.3435***	0.1877
		(3.8661)	(3.7238)	(-0.4906)	(4.7374)	(4.4725)	(1.1990)
β_4	**Dum_ZeroRec$_T$**	0.4069***	0.1381**	0.5211***	0.4592***	0.3175***	0.7561***
		(7.4111)	(2.0941)	(2.7187)	(10.2513)	(7.9880)	(6.3108)
β_5	**NumAna$_T$**	-0.0161**	-0.0209***	-0.0147	-0.0158***	-0.0161	-0.0078
		(-2.5323)	(-5.7005)	(-1.5374)	(-2.8513)	(-6.6792)	(-1.0029)
β_6	**Divergence$_T$**	-0.0290	0.0056	-0.1693*	-0.0352	-0.0306	-0.1923***
		(-0.8199)	(0.1380)	(-1.6531)	(-1.2534)	(-1.1305)	(-2.8088)
β_7	**InitialR**	-0.6519***	-0.5010***	-0.6332***	-0.6611***	-0.5095***	-0.5914***
		(-11.0536)	(-7.7598)	(-3.4332)	(-13.0741)	(-11.9183)	(-4.1362)
β_8	**Dum_VC**	-0.0444	-0.0998***	-0.1361	0.0102	-0.0106	-0.0095
		(-1.6188)	(-3.0598)	(-1.4778)	(0.4417)	(-0.4841)	(-0.1432)
β_9	**Age**	-0.0094	-0.0092	-0.1138**	-0.0180*	0.0011	-0.0735**
		(-0.7621)	(-0.6328)	(-2.3163)	(-1.8940)	(0.1183)	(-2.0141)
β_{10}	**Dum_NASDAQ$_T$**	0.3551***	0.3029***	0.7475***	0.3616***	0.2545***	0.6222***
		(9.8204)	(7.3220)	(6.0382)	(11.6976)	(8.7968)	(6.4562)
β_{11}	**Size$_T$**	0.2976***	0.2999***	0.6625***	0.3689***	0.3619***	0.7216***
		(20.1994)	(22.7918)	(13.5031)	(27.0392)	(39.7478)	(17.3203)
β_{12}	**BMV$_T$**	-0.0711***	-0.0173*	0.0079*	-0.0777***	-0.0035	0.0111***
		(-5.2371)	(-1.7511)	(1.9529)			
β_{13}	**IPOVol**	-0.4221***	-0.1881***	-0.2338	-0.3994***	-0.0114	0.0866
		(-7.5690)	(-3.0361)	(-1.4826)	(-8.7604)	(-0.2759)	(0.7661)
β_{14}	**Dum_Delisted**	-0.0621**	-0.0302	N.A.	-0.0583***	-0.0091	N.A.
		(-2.5404)	(-0.9930)		(-2.9506)	(-0.4536)	
β_{15} - β_{32}	**Dum_Industry**	Yes	Yes	Yes	N.A.	N.A.	N.A.
	Adj R^2	**0.2385**	**0.2633**	**0.2190**	**0.4064**	**0.5212**	**0.3964**
	N	3596	3116	2167	3596	3116	2167

Table 5 Result of the GMM Regression for the Lead-Lag Model Investigating Abnormal Long Term IPO Returns and Analyst Recommendations Issued in the First Year of Listing

The dependent variables are the matched firm buy-and-hold abnormal returns ("$MFBHAR_T$") and CRSP Value-Weighted Index buy-and-hold abnormal returns ("$VWBHAR_T$") for period T = 12, 24 and 36. N represents the number of observations.

***, **, * signify if the estimate is statistically significant at the 1%, 5% and 10% levels respectively.

	Variable	$MFBHAR_{13\text{-}24}$	$MFBHAR_{13\text{-}36}$	$VWBHAR_{13\text{-}24}$	$VWBHAR_{13\text{-}36}$
	Intercept	4.9160**	-7.3020***	5.7084***	-11.4177***
		(2.5154)	(-5.8316)	(7.1935)	(-12.7965)
β_1	Dum_HighBRT$_{12}$	-0.3126***	-0.1398*	-0.1890***	-0.0899*
		(-2.5720)	(-1.8646)	(-3.5739)	(-1.6528)
β_2	Dum_LowBRT$_{12}$	0.3437***	-0.0504	0.1046*	-0.0070
		(2.6756)	(-0.5158)	(1.9126)	(-0.0944)
β_3	Dum_OneBuy$_T$	-0.4987**	-0.0205	-0.1701*	-0.0564
		(-1.9795)	(-0.1305)	(-1.7409)	(-0.5438)
β_4	Dum_ZeroRec$_T$	-0.3697*	0.1313	-0.4570***	0.2861***
		(-1.7089)	(0.9653)	(-4.1480)	(2.8484)
β_5	NumAna$_T$	0.0273	-0.0808***	-0.0073	-0.0679***
		(1.5872)	(-7.8219)	(-0.7808)	(-8.8390)
β_6	Divergence$_T$	0.0257	-0.1274	0.1028**	-0.2069***
		(0.2021)	(-1.4945)	(1.9820)	(-3.2674)
β_7	InitialR	-0.1575	-0.3530***	0.1165	-0.4386***
		(-0.6519)	(-2.9919)	(0.9721)	(-5.0238)
β_8	Dum_VC	0.0343	-0.0868	-0.0946**	-0.0350
		(0.3380)	(-1.4072)	(-2.0685)	(-0.7604)
β_9	Age	0.0615	-0.0649**	0.0414**	-0.0344
		(1.4148)	(-2.1122)	(1.9963)	(-1.5616)
β_{10}	Dum_NASDAQ$_T$	-0.6584***	0.5035***	-0.4051***	0.4449***
		(-5.0357)	(6.5060)	(-6.1265)	(7.4172)
β_{11}	Size$_T$	-0.3363***	0.4600***	-0.3621***	0.4721***
		(-6.2657)	(17.7611)	(-7.6606)	(22.6183)
β_{12}	BMV$_T$	-0.0919**	0.0019	-0.1095***	0.0022
		(-2.5536)	(0.7387)	(-7.3902)	(1.1227)
β_{13}	IPOVol	-0.0848	0.1974*	-0.0639	0.5443***
		(-0.4718)	(1.7797)	(-0.7456)	(7.0063)
β_{14}	Dum_Delisted	0.1362	N.A.	-0.0428	N.A.
		(1.4709)		(-1.2313)	
β_{15} - β_{32}	Dum_Industry	Yes	Yes	N.A.	N.A.
	Adj R^2	**0.0371**	**0.2110**	**0.1454**	**0.3480**
	N	3116	2167	3116	2167

DO DIGITAL REPORTING FORMATS IMPACT DECISION ACCURACY AND COGNITIVE EFFORT?

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Abstract

This study examines the impact of digital reporting formats (HTML, PDF, and XBRL) on decision accuracy and cognitive effort in an accounting context. Using an experimental design involving professional accountants as participants, the results indicate that digital reporting formats impact decision accuracy. Participants who used XBRL achieved higher accuracy than participants who used PDF but no significant differences were found between the use of XBRL and HTML, and HTML and PDF. These results support the notion in the psychology literature that different forms of reporting make some aspects of the information displayed more apparent. There were no significant differences in cognitive effort between the three digital reporting formats. The findings are of interest to organizations that publish financial reports and regulatory bodies that require financial reports be made publicly in digital formats.

1. Introduction

This paper examines whether digital reporting formats impact decision-makers' performance in relation to improving accuracy and minimizing cognitive effort. Several factors influence decision quality such as decision-makers' characteristics, task features, information content and the environment within which the decision is made (Libby and Lewis 1977, 1982; Maines 1995; Roberts 2002). Libby and Lewis (1982) and Maines (1995) suggest that using appropriate presentation formats improves decision quality as presentation formats improve decision quality and overcome the limited ability of humans to process a large quantity of data. The findings of various studies support this notion (Rohrman, 1986; Bricker and Nehmer, 1995; Ramarapu et al., 1997; Frownfelter-Lohrke, 1998; Hodge, 2001; Dull et al., 2003; Hodge et al., 2004).

Abdolmohammadi et al. (2002) suggest there is a need to examine the impact of digital reporting formats on decision-makers' decision quality. Baldwin et al. (2004) suggest the need to examine the impact of XBRL in enhancing decision-makers' performance since the main objective of the preparation of corporate reports is to provide transparency of financial reporting.

This paper uses an experimental design to examine the impact of digital reporting formats (PDF, HTML, and XBRL) on decision accuracy and cognitive effort in the

context of using accounting reports in an investment decision. The results support the notion that digital reporting formats impact on decision accuracy but not cognitive effort. As financial reporting is moving to the digital environment and as the US Securities and Exchange Commission has adopted XBRL as the standard for financial reporting, this study contributes to the understanding of the link between digital reporting formats and decision quality. The findings will assist preparers in selecting appropriate reporting formats in disseminating information to users of such reports.

The remainder of this paper is structured as follows. The next section provides a literature review of reporting and presentation formats and their impact on decision quality. Section 3 discusses the research framework and hypotheses. Section 4 outlines the research method. The results are presented in Section 5. A summary and conclusion is provided in the last section.

2. Literature Review

Various studies have examined the effect of traditional reporting (e.g., tabular versus graphical) formats on decision-makers' performance (Stock and Watson, 1984; Hard and Vanecek, 1991; Vessey, 1991; Vessey and Galletta ,1991; Umanath and Vessey, 1994; Frownfelter-Lohrke, 1998; Speier et al., 2003). Other studies have included formats from linguistic and numerical (Stone and Schkade, 1991), multimedia versus hardcopy (Clements and Wolfe, 1998, 2000; Rose 2002), bullet point and graph (Almer et al., 2003), to digital reporting formats such as Portable Document Format (PDF), Hypertext Mark-up Language (HTML) and Extensible Business Reporting Language (XBRL) (Hodge, 2001; Dull et al., 2003; Hodge et al., 2004).

Brown and Eining (1996) suggest that presentation formats have a behavioural impact on decision-makers' learning, strategy selection, decision quality and experience of satisfaction. Kleinmuntz and Schkade (1993) propose two cost-benefit dimensions of decision quality: accuracy and cognitive cost. Decision accuracy reflects the ability of a strategy to produce an accurate outcome (Ashton, 1991). Cognitive effort refers to the total expenditure of cognitive resources required to complete a task (Frownfelter-Lohrke, 1998) Accuracy is assessed by comparing the decision outcome with a relevant benchmark while cognitive effort is assessed by the amount of time needed to complete the decision task. Various studies have examined these two dimensions of decision quality (such as Hard and Vanecek, 1991; Ramarapu et al., 1997; Frownfelter-Lohrke, 1998; Dull et al., 2003).

Many studies suggest the use of appropriate digital and non-digital reporting formats increases decision accuracy (Stock and Watson, 1984; Dickson et al., 1986; Iselin, 1988; Vessey, 1991; Mackay and Villareal, 1987; Hard and Vanecek, 1991; Stone and Schkade, 1991; Anderson and Kaplan, 1992; Ramarapu et al., 1997; Frownfelter-Lohrke, 1998; Almer et al., 2003; Bizarro and Baldwin, 2004; Hodge et

al., 2004). Further, decision-makers experience a reduction in decision accuracy and higher cognitive costs in completing tasks where inappropriate presentation formats are used (Vessey, 1991; Vessey and Galletta, 1991; Umanath and Vessey, 1994; Speier et al., 2003). However, some studies suggest that presentation formats do not affect decision accuracy (Bricker and Nehmer, 1995; Dull et al. 2003; So and Smith 2003). These studies suggest that the degree of information processed as well as the type of tasks performed impact the effectiveness of reporting formats in improving decision accuracy.

The link between decision accuracy and presentation formats is attributed to factors such as matching of presentation format and task (Vessey, 1991; Umanath and Vessey, 1994) and the idiosyncrasies of presentation formats (Moriarity, 1979; Hard and Vanecek, 1991; Frownfelter-Lohrke, 1998).

Some studies have suggested that using appropriate reporting formats reduces cognitive effort in the decision-making task (Schwartz and Howell, 1985; Jarvenpaa, 1989; Vessey, 1991; Coury and Bouletter, 1992; Stone and Sckhade, 1991, 1994; Bricker and Nehmer, 1995; Tuttle and Kershaw, 1998). However, other studies have found that presentation formats do not affect cognitive effort (Benbasat and Dexter, 1985; Dickson et al., 1986; Jarvenpaa, 1989; Wilson and Zigurs, 1999; Dull et al., 2003).

The diverse findings in the literature that link cognitive effort with presentation formats could be attributed to factors such as the size of tasks (Dull et al. 2003), cognitive style (Bizarro and Baldwin, 2004), the degree of processing (Bricker and Nehmer, 1995), experience (Sabherwal and Grover, 1989), gender (Almer et al., 2003), and familiarity with reporting formats (Taylor and Brownfield 2002). These studies incorporate diverse research settings and tasks, including financial forecasting and time series information (Carbone and Gorr, 1985; DeSanctis and Jarvenpaa, 1989; Bouwman et al., 1995), cash flow prediction (Goldwater and Forgarty, 1995), investment decision (Dull et al., 2003; Hodge et al., 2004), retrieval task (Almer et al., 2003; Bizarro and Baldwin, 2004), and word usage (Nouri and Douglas Clinton, 2006).

The mixed results could also be attributed to sample selection. Most of the studies in the reporting format literature (for example; Hard and Vanecek, 1991; Ramarapu et al., 1997; Dull et al., 2003) examine the effect of reporting format on decision quality using a sample of students as proxy for investors. Although a recent study by Elliot et al. (2004) indicates that students may have similar characteristics to investors, other studies have shown that students' experiences and beliefs are different to those of investors (Bouwman et al., 1995; Hunton and McEwen, 1997; Vera-Munoz et al., 2002). Hence, it could be argued that it is difficult to generalise the findings from these studies as the research subjects may not represent actual decision-makers.

3. Hypotheses

Figure 1 illustrates a model showing the effect of reporting format on decision quality. The model is based on Libby and Lewis' (1977) and Brown and Eining's (1996) classification of variables affecting decision quality. This model suggests that reporting formats impact decision accuracy and cognitive effort. This impact is confounded by decision-makers' characteristics, experience and familiarity with reporting formats.

<Insert Figure 1 Here>

This study extends Hodge et al.'s (2004) study by examining the impact of three reporting formats: Portable Document Format (PDF), Hypertext Mark-up Language (HTML) and Extensible Business Reporting Language (XBRL) on decision quality.

Hodge et al. (2004) examined and compared two reporting formats in the digital reporting environment. They compared searchable (XBRL) and non-searchable (PDF) reporting formats and examined the effectiveness of the two reporting formats in assisting users to acquire and integrate information on stock option compensation. They found that XBRL provided more transparency of information presented in footnotes and consequently, the participants who used XBRL obtained higher accuracy in making investment decisions. PDF, on the other hand, provided information in sequential order making the information less transparent.

Bosak and Bray (1999) and Abdolmohammadi et al. (2002) distinguish between the three digital reporting formats (PDF, HTML and XBRL) according to their information processing features. They describe PDF as one that does not permit information processing. HTML is described as static information processing where the data cannot be analysed on the spot (there is a need for additional queries). XBRL is described as dynamic information processing where data can be processed on the 'spot' and/or copied and pasted to software packages such as Excel for analysis (SEC, 2007).

Bertin (1983) argues that different forms of presentation make some aspects of the information displayed more apparent. He noted that one format is not necessarily more effective in solving all tasks where a format that could be used to effectively solve a task may not be so effective in a different task. However, studies that examine the effect of reporting formats on decision quality are inconclusive. Some studies suggest that reporting formats impact decision accuracy and cognitive effort. For example, Using tabular and graphical in their experimental design, Hard and Vanecek (1991) found that the use of such formats impact decision accuracy and cognitive effort, although this impact is not statistically significant. Similarly, Dull et al. (2003) examined non-hyperlinked (PDF) and hyperlinked (HTML) and concluded that reporting formats do not impact decision accuracy and cognitive effort when evaluating large firms.

Studies have suggested that some decision-makers' characteristics such as work experience, familiarity with presentation formats, gender, confidence and personal cognitive style could impact the effectiveness of reporting formats in reaching the decision outcome (Sabherwal and Grover, 1989; Bamber, 1993; Brown and Eining, 1996; Nouri, Douglas, and Clinton, 2006). Kalchelmeier and Messier (1990) found that experience moderates decision accuracy since the more experienced decision-maker brings added skills to their engagement with financial statements produced under different reporting formats.

Decision accuracy and cognitive effort are the most widely used measures to evaluate the effectiveness of a particular reporting format on decision quality (Kleinmuntz and Schkade, 1993). An appropriate reporting format would enhance the structure of the information and assist decision-makers in the processing of information more accurately and with less cognitive effort (Mackay et al. 1992; Hodge et al. 2004). However, there are studies that found that reporting formats do not affect decision quality. These studies have identified other factors that impact decision accuracy and cognitive effort such as confidence (Whitecotton, 1996), degree of processing (Bricker and Nehmer, 1995), task characteristics (Dull et al., 2003), and decision-makers' characteristics (Bizarro and Baldwin 2004).

The null hypotheses testing the link between reporting format, decision accuracy and cognitive effort are developed as follows:

H1 : There are no significant differences in decision accuracy between digital reporting formats.

H2 : There are no significant differences in cognitive effort between digital reporting formats.

4. Research Method
Participants

The participants in this study are drawn from public accounting practitioners in New Zealand. Public accounting practitioners were chosen as they perform a broad range of accounting, auditing, tax, and consulting activities for their clients (Vera-Munoz et al., 2002), and one of their services is likely to be assisting and advising clients in investment decision tasks. Public accounting practitioners are also believed to be one of the principal decision-makers among people who use financial information to make decisions (Goldwater and Fogarty, 1995).

Previous studies that examine digital reporting formats have often used students as proxy for naive decision-makers (e.g., Hodge, 2001; Dull et al., 2003; Hodge et al., 2002; Hodge et al., 2004). Students in general have limited working experience and have different or less developed analytical techniques in comparison with experienced decision-makers (Vera-Munoz et al., 2002). The use of professional subjects, public accounting practitioners, in this study improves the external validity.

Experimental Design

The experiment task involves an investment decision task. The experiment task is adapted from Hodge et al. (2004) with some modification. The main modification includes the information context (investment properties) and the types of financial ratios. The experiment material comprises financial statements of two fictitious firms, Firm A and Firm B. Each set of financial statements includes a statement of financial performance (income statement), a statement of financial position (balance sheet) which includes notes to the accounts, and a statement of cash flows.

The financial statements are presented in three reporting formats: PDF, HTML and XBRL. These reporting formats were chosen because they are commonly used in the reporting of financial reports. The financial statements for both firms were converted to the three digital reporting formats (PDF, HTML, XBRL). Microsoft Excel was used to retrieve and present XBRL financial statements. An SEC Chairman's statement identified Microsoft Excel spreadsheet as one of the softwares that could be used by investors, analysts and others to download and retrieve XBRL tagged financial statements (SEC, 2007). The financial statements in the three reporting formats were made available to participants through a web page.

Pilot Study and Data Collection

A pilot study was conducted before commencing the main experiment to ensure that the main experiment and post experiment questionnaire capture the data relevant to test the hypotheses. Two public practitioners participated in the pilot study. The difficulty in accessing one of the reporting formats faced by one of the participants indicated that some participants may need to be assisted in completing the experimental tasks. Subsequently, similar to Hodge (2001), the participants were given a choice in completing the experiment, in-lab in the presence of the researcher, or out-of-lab.

On the instruction page, participants are requested to attempt the research material in one sitting and use only the information provided. To assess that the two groups, in-lab and out-of-lab, completed the task in a similar manner, such as no prolonged breaks or use of additional material, the average amount of time taken to complete the experiment and the accuracy in calculating ratios by the two groups was compared.

Finally, each participant was randomly allocated to a digital reporting format, PDF, HTML or XBRL. Each participant was requested to complete the research task using the allocated digital reporting format.

Experiment Procedures

All participants were provided with an envelope. The envelope contained a CD. The CD contains a range of information pertinent to the experiment comprising an instruction sheet, a web homepage providing general information about the two firms that are involved in the manufacturing semiconductors, and their respective financial statements. A participant begins the experiment by accessing each firm's homepage and clicking on a link which provides the financial statements and footnotes in the allocated digital reporting format.

After viewing the firm's financial information, the participants were asked to calculate four key ratios. The ratios are return on assets, return on sales, return on fixed assets, and fixed assets turnover. The participants were asked to complete a section on their demographic profile.

Dependent Measures

Hypothesis 1 states there are no significant differences in decision accuracy between the three digital reporting formats. The decision accuracy score for each participant is measured by the proportion of accurately calculated ratios (eight ratios, four ratios for each firm, A and B) (Bricker and Nehmer, 1995; Dunn and Grabski, 2000). The accuracy score (0 to 8) is the dependent measure for testing decision accuracy.

Hypothesis 2 states that there are no significant differences in cognitive effort between the three digital reporting formats. To measure cognitive effort, the continuous-open approach is used (Courneya and McAuley, 1993). The participants were requested to record their starting time of a particular step/stage of the experiment exercise and the time when the step/stage is completed. The total time taken to complete the experiment exercise is the dependent variable for assessing cognitive effort.

5. Results

Table 1 provides the level of work experience of participants (public accounting practitioners). The participants had a wide range of experience which enabled experience to be tested as a moderating influence on decision accuracy and cognitive effort.

<Insert Table I Here>

Twenty-three participants completed the experiment in-lab and 39 participants, out-of-lab. Table 2 provides a comparison between the two groups. Panel A compares the amount of time the subjects took to complete the experiment. The in-lab participants took on average 13.6 minutes while the out-of-lab took 15.8 minutes to complete the experiment. T-test shows no significant differences between the two groups. This indicates that in-lab and out-of-lab participants attempted the

experiment in a similar manner and gives some confidence that the experimental setting did not impact on responses.

<Insert Table 2 Here>

Panel B provides a comparison between the two groups (in-lab and out-of-lab) in relation to the accuracy in extracting and calculating ratios. The results show that on average, the in-lab participants' average accuracy score was about 4.3 while the out-of-lab participants' average score was about 5. A t-test shows no significant difference between the two groups. This indicates that the in-lab and out-of-lab participants attempted the experiment using only the information provided in the experiment instrument. The results of tests comparing in-lab and out-of-lab groups provide some confidence that the different experimental settings did not impact on the research variables, decision accuracy and cognitive effort.

Decision Accuracy

In this section the results from testing hypothesis 1 are presented. Hypothesis 1 states that there are no significant differences in decision-makers' decision accuracy between the three digital reporting formats. Panel A of Table 3 provides the descriptive statistics of the effect of reporting format on decision-makers' decision accuracy. Participants in the XBRL group had the highest mean accuracy score of 5.66, followed by the HTML group with a score of 5.00, and the PDF group with a score of 3.71.

<Insert Table 3 Here>

The results in Panel B, Table 3 indicate that the differences in the impact of digital reporting format on decision accuracy is marginally significant (p=0.06). The results of comparing each reporting format with another format are provided in Panel C. These results indicate that participants using XBRL had higher decision accuracy than participants using PDF (p=0.05). However, no significant difference was found between PDF and HTML (p=0.27), or between HTML and XBRL (p=0.70). Overall, the Tukey HSD test shows a significant difference between the three digital reporting formats on decision accuracy (p=0.05) as shown in Panel D. The results indicate that hypothesis 1 is not supported.

It is possible that the level of decision accuracy is influenced by factors such as participants' work experience (Kachelmeier and Messier, 1990; Abdomohammadi, 1992). ANCOVA is used to assess the effect of digital reporting formats on decision accuracy, after controlling for the participants' experience.

Table 4 shows the ANCOVA results for the impact of digital reporting format on decision accuracy and reporting format after controlling for work experience. The

results indicate that experience is a significant covariate in determining accuracy. The results also suggest that the null hypothesis of no significant differences between the reporting formats on decision accuracy is marginally rejected (p=0.07). This indicates that the effect of reporting format on decision accuracy is lower after controlling for work experience. Overall, the results indicate that hypothesis 1 is not supported.

<Insert Table 4 Here>

Cognitive Effort

Hypothesis 2 states that there are no significant differences in decision-makers' cognitive effort between digital reporting formats. Panel A of Table 5 provides the descriptive statistics of the effect of each reporting format on decision-makers' cognitive effort. The results show that when compared to the participants using PDF or XBRL formats, participants using HTML format spent less cognitive effort in completing the experiment. Specifically, participants in the HTML group took the least time to complete the experiment (14.15 minutes) compared to participants in the XBRL group, who took 14.80 minutes.

<Insert Table 5 Here>

This indicates that participants found it easier to perform the task using HTML compared with the other two digital reporting formats. HTML provides hyperlinks between various parts and allows greater movements between the various sections of the financial reports.

The ANOVA results in Panel B, Table 5 indicate that the impact of digital reporting formats on cognitive effort is not statistically significant (p=0.57). The results of comparing each reporting format with another reporting format are provided in Panel C. These results indicate no significant differences between PDF and HTML (p=0.562) and between HTML and XBRL (p=0.938). The results indicate that hypothesis 2 is supported.

Similar to decision accuracy, it is possible that the level of cognitive effort is influenced by factors such as participants' experience. The results in Table 6 suggest that when controlling for experience, the null hypothesis that reporting formats impact on cognitive effort is not rejected. This indicates that the effect of reporting formats on cognitive effort remains not significant after controlling for work experience. The results also indicate that experience is not significant covariates in determining cognitive effort.

<Insert Table 6 Here>

6. Summary and Conclusion

This study examined the effect of reporting formats on decision quality using an experimental research design involving public accounting practitioners as research subjects. The finding that reporting formats affect decision accuracy is consistent with previous studies (Stock and Watson, 1984; Dickson et al., 1986; Iselin, 1988; Mackay and Villareal, 1987; DeSanctis and Jarvenpaa, 1989; Hard and Vanecek, 1991; Stone and Schkade, 1991; Anderson and Kaplan, 1992; Bricker and Nehmer, 1995; Ramarapu et al., 1997; Frownfelter-Lohrke, 1998; Hodge, 2001; Almer et al., 2003; Bizarro and Baldwin, 2004; Hodge et al., 2004).

The results show that reporting formats impact decision accuracy and support the notion in the psychology literature that different forms of reporting make some aspects of the information displayed more apparent (Bertin, 1983). For example, relying on schematic faces (facial impression such as a smiling dummy indicating a firm with good performance) may better indicate the firm's performance than using ratios (Moriarity, 1979). However, certain reporting formats that can be used to achieve decision accuracy in a specific task may not be effective in a different task. In this case, of the three reporting formats examined, XBRL seems to be the best reporting format to possibly promote decision accuracy in investment decision tasks.

The information systems literature also supports the theory that reporting formats impact decision accuracy. The information systems literature suggests that when reporting format matches the task type, the decision quality improves. Vessey (1991) suggests that if a reporting format does not match the task type, the decision-makers would need to convert the reporting format to a form similar to the task, leading to potential sub-optimal performance. In this study, the task type is investment decisions. Therefore, this study suggests that for investment decision purposes, using PDF or HTML would require the decision-makers to convert the information presented to a more analytical form, and during this process, the decision-makers are likely to make errors, leading to sub-optimal decision performance. In contrast, XBRL allows information processing of the data on the spot, where the data can be extracted and processed automatically by XBRL-aware applications such as Excel for analysis (SEC, 2007).

The results in this study also show that the impact of reporting formats on decision accuracy is lower when decision-makers' work experience is accounted for. Such results are consistent with results of previous studies that suggest decision-makers with more experience in the task are expected to bring added skill to their interactions with the reporting format and therefore, enhanced decision accuracy (Mackay et al., 1992; Bizarro and Baldwin, 2004).

The results in this study show that digital reporting formats do not impact cognitive effort. This is consistent with the findings in So and Smith (2003) and Dull et al. (2003) where reporting formats do not increase the efficiency of decision-making. However, this finding is not consistent with studies that found reporting formats do impact cognitive effort (Benbasat and Dexter, 1986; Jarvenpaa, 1989; Ramarapu et

al., 1997; Tuttle and Kershaw, 1998). It has been suggested that other factors such as task characteristics (Dull et al., 2003), cognitive style (Bizarro and Baldwin, 2004), gender (Nouri and Douglas-Clinton, 2006), and degree of information processed (Bricker and Nehmer, 1995), may impact on cognitive effort.

Most of the studies that used students as subjects show that reporting formats impact on cognitive effort. However, some studies show that less experienced decision-makers have only one supposition and therefore search for information to confirm that supposition (Bouwman, 1982; Biggs et al., 1985; Anderson, 1988). On the other hand, when decision-makers are more experienced, they would have several suppositions in their working memories and search for potential information to contradict and distinguish among these suppositions (Bouwman, 1982; Biggs et al., 1985; Anderson, 1988). Such information processing behaviour would mean a longer time would be taken to complete a task. As a result, with experienced decision-makers, digital reporting formats may not impact on cognitive effort.

Two limitations are identified with this study. First, the number of participants involved in this study is relatively small. However, similar studies have used a small number of participants, such as Tuttle and Kershaw (1998): 39 participants; Hodge (2001): 57 participants; Dull et al. (2003): 60 participants; and Hodge et al. (2002, 2004): 96 participants.

The participants in this study were randomly allocated to digital reporting formats. The performance of participants may be different if they were allowed to choose a digital reporting format.

In summary, the findings in this study suggest that preparers, standard setters and regulatory bodies should recognise that digital reporting formats impact decision-quality and select appropriate formats that lead to improvement in decision-making.

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Figure 1: Research model

Independent variables
Dependent variables

```
┌─────────────────────────┐                          ┌─────────────────────────────┐
│ Reporting format        │                          │ Decision quality            │
│  •  PDF                 │─────────────────────────▶│  •  Decision Accuracy       │
│                         │               ▲          │                             │
│  •  HTML                │               │          │  •  Cognitive Effort        │
│                         │               │          │                             │
│  •  XBRL                │               │          │                             │
└─────────────────────────┘               │          └─────────────────────────────┘
                                           │
                              ┌────────────────────────┐
                              │ Characteristics        │
                              │  •   Experience        │
                              │                        │
                              │                        │
                              │                        │
                              └────────────────────────┘

                                Confounding variable
```
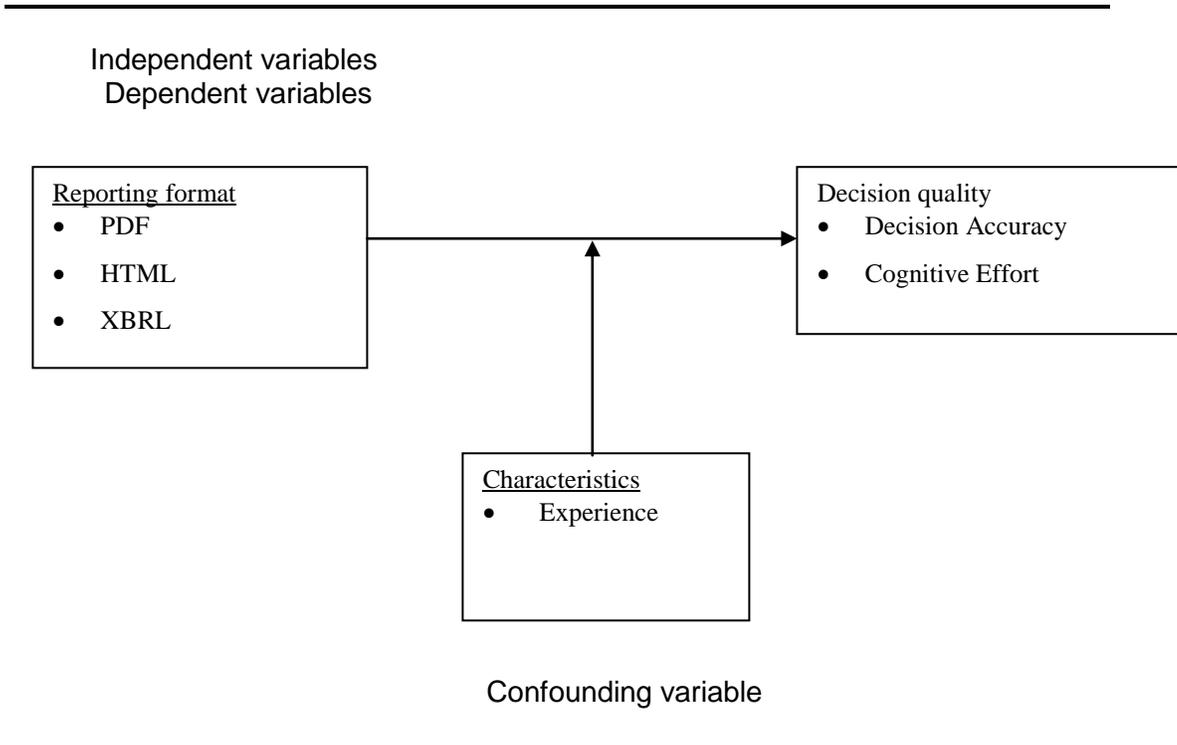
Table 1

Participants' level of accounting experience

Experience	Number of subjects	Percent
Less than 5 years	15	24
5 to 10 years	15	24
11 to 15 years	12	20
16 – 20 years	6	10
More than 20 years	14	23
Total	62	100

Table 2
Comparison between in-lab and out-lab

Panel A: Descriptive statistics of time to complete the experiment

	Number of subjects	Time to complete the experiment		
		Mean	Std deviation	Std error mean
Experiment setting				
In-lab	23	13.60	6.72	1.40
Out-lab	39	15.89	5.71	0.91

T-test for in-lab and out-of lab experiment

T	Df	Sig.	Mean difference	Std. error difference
-1.42	60	0.15	-2.28	1.60

Panel B: Descriptive statistics of accuracy in extracting and calculating ratios

	Number of subjects	Extracting and calculating ratios		
Completion time		Mean	Std deviation	Std error mean
In-lab	23	4.30	2.85	0.59
Out-lab	39	5.07	2.67	0.42

T-test for in-lab and out-of lab experiment

T	Df	Sig.	Mean difference	Std. error difference
-1.07	60	0.28	-0.77	0.72

Table 3
Effect of digital reporting formats on decision accuracy

Panel A: Descriptive statistics of reporting formats impact on decision accuracy

Reporting format	Number of subjects	Decision accuracy mean	Std. deviation
PDF	21	3.71	2.41
HTML	20	5.00	2.91
XBRL	21	5.66	2.65
Total	62	4.79	2.74

Panel B: Analysis of variance

Dependent variable: Decision accuracy	d.f	Mean square	F	Sig.
Between groups	2	20.66	2.91	0.06
Within groups	59	7.10		
Total	61			

Panel C: Pairwise multiple comparisons

	Format (I)	Format (J)	Accuracy mean difference (I) – (J)	Sig.
Tukey HSD	PDF	HTML	-1.28	0.27
	PDF	XBRL	-1.95	0.05
	HTML	XBRL	-0.66	0.27

132

Table 4

Effect of reporting formats on decision accuracy, controlling for work experience

Source of variance	Sum of squares	d.f	Mean square	F	Sig.
Intercept	555.063	1	555.063	86.829	0.00
Experience	48.18	1	48.18	7.34	0.01
Digital reporting format	34.35	2	17.17	2.69	0.07
Error	370.77	58	6.39		
Total	1883.00	62			

R Squared = .194 (Adjusted R Squared = .153)

Table 5

Effect of reporting formats on cognitive effort

Panel A: Descriptive statistics of the effect of reporting formats on cognitive effort (time)

Reporting format	Number of subjects	Cognitive effort Mean	Std. deviation
PDF	21	16.14	5.90
HTML	20	14.15	6.15
XBRL	21	14.80	6.53
Total	62	15.04	6.157

Panel B: Pairwise multiple comparisons

	Format (I)	Format (J)	Cognitive effort mean difference (I) – (J)	Sig.
Tukey HSD	PDF	HTML	1.99	0.56
		XBRL	1.33	0.76
	HTML	PDF	-1.99	0.56
		XBRL	-0.65	0.93
	XBRL	PDF	-1.33	0.76
		HTML	0.65	0.93

Panel C: Tukey HSD

Reporting format	Number of subjects	Subset for alpha=.05 1
PDF	21	14.15
HTML	20	14.80
XBRL	21	16.14
Sig.		0.56

Table 6
Effect of reporting formats on cognitive effort, controlling work experience

Source of variance	Sum of squares	d.f	Mean square	F	Sig.
Intercept	3392.273	1	3392.273	87.319	0.00
Experience	17.11	1	17.11	0.44	0.51
Digital reporting format	48.65	2	24.32	0.63	0.54
Error	2253.24	58	38.85		
Total	16353.00	62			

R Squared = .026 (Adjusted R Squared = -.025)

FAIRNESS PERCEPTIONS AND COMPLIANCE BEHAVIOR: NEW ZEALAND EVIDENCE

Natrah Saad[14]

Abstract

The present study fills a gap from the literature through investigating in a rarely examined jurisdiction, namely New Zealand, the role of fairness in tax compliance decisions among taxpayers. The impact of tax knowledge and tax complexity on fairness perceptions are also examined. The study extends the well-established Theory of Planned Behavior (TPB). A questionnaire was administered among taxpayers drawn from the 2008 Preliminary New Zealand Electoral Roll. The findings reveal that overall fairness and vertical fairness positively influence compliance behavior while exchange fairness and administrative fairness have an inverse relationship with compliance behavior. Tax knowledge and tax complexity also affect several fairness dimensions. The variables examined under the TPB are also significant in explaining tax compliance behavior. This study should help tax researchers generally to understand the role of fairness perceptions, tax knowledge, tax complexity and TPB variables in compliance behavior.

1. Introduction

The importance of tax fairness in compliance decisions have been documented in previous studies (for example, Gilligan and Richardson, 2005; Hite and Roberts, 1992; Porcano and Price, 1992; and Song and Yarbrough, 1978). However, those studies, with the exception of Gilligan and Richardson (2005), only deal with either overall fairness or fairness of the tax rate structure. Fairness perceptions can extend far beyond that. Likewise, a substantial number of available studies have tended to focus on the association between fairness perceptions and tax compliance rather than on the factors contributing to fairness perceptions. Thus, this study aims to fill

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[14] Natrah Saad, the corresponding author, is a PhD student in the Department of Accounting and Information Systems, University of Canterbury, Christchurch, New Zealand. The author wishes to thank her supervisors, Prof. Adrian Sawyer and Andrew Maples for their assistance and comments on earlier versions of this paper. The author can be contacted at nbs24@student.canterbury.ac.nz.

the gap by looking into various dimensions of fairness perceptions and their influences on compliance behavior. Subsequently, the factors contributing to fairness perceptions will be further examined.

I believe this study contributes to the literature in several ways. First, from a theoretical perspective, this study adds to the limited literature available in the Australasian region. To date, there have been two major studies on fairness perceptions undertaken in New Zealand (Tan, 1998; and Hasseldine et al.,1994), but they were both conducted prior to the formal implementation of the current self assessment system. Second, this study extends the well-established Theory of Planned Behavior (TPB) in compliance behavior studies. While the TPB appears to be the dominant model in explaining an individual's behavior, the inclusion of fairness perceptions in tax settings have strengthened the model to a certain extent.

Third, from a practical perspective, the information on taxpayers' fairness perceptions and compliance behavior can assist policy makers, particularly tax authorities in reviewing and modifying current tax systems, where necessary. In addition to this, the findings on the impact of tax knowledge and tax complexity on fairness perceptions and compliance behavior are also useful for policy makers to tailor tax education and simplification programs.

The remainder of this paper is organized as follows. Section 2 provides an overview of the income tax system and compliance environment in New Zealand while Section 3 reviews the relevant literature and develops the research hypotheses. In Section 4, the conceptual model is proposed, while Section 5 describes the methods used. The

results are presented in Section 6, followed by a discussion in Section 7. Finally, the paper ends with concluding remarks in Section 8.

2.   Overview of the Income Tax System and Compliance Levels in New Zealand

The New Zealand income tax legislation was first enacted in 1891 as part of the Land and Income Tax Assessment Act 1891. Since its commencement, numerous reforms have been made to improve the income tax system and deal with an increasingly complex environment (Tax Review, 2001; Tan, 1998). Like many other jurisdictions, New Zealand also relies on a voluntary compliance tax system,[15] for which taxpayers are expected to understand and comply with their tax obligations (Committee of Tax Experts, 1998). Under this voluntary self-assessment system, some taxpayers are prone to non-compliance (both intentional and unintentional). Hence, the Inland Revenue Department (IRD) has taken a proactive stance to maintain high levels of tax compliance, through its Compliance Model (New Zealand Inland Revenue, 2007).

The IRD Compliance Model (based on the Australian Tax Office's Compliance Model) shown in Figure 1, is designed to facilitate compliance amongst the vast majority of taxpayers, and takes into consideration the external factors (economic, sociological, business, industry and psychological) that influence taxpayers' attitudes and behaviors. Once the determining factors are recognized, the most suitable approach is applied to the best way possible to improve compliance.

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[15] A self assessment system has been formally in place in New Zealand since 1998.

FIGURE 1
The IRD Compliance Model
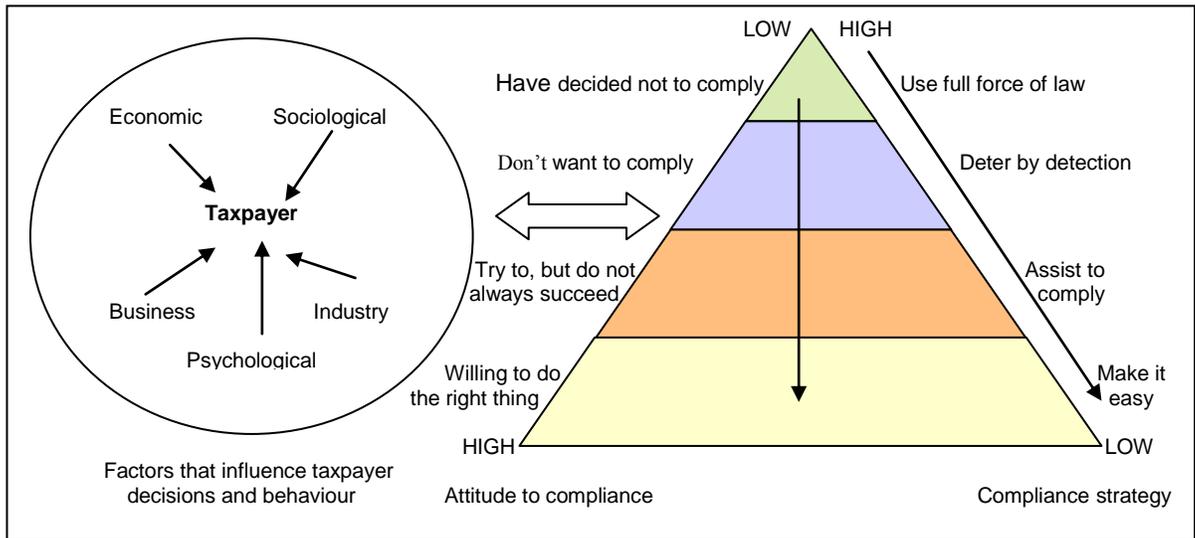
Source: New Zealand Inland Revenue (2007).

It appears that the IRD's compliance strategy, as represented by the IRD Compliance Model (and the IRD's audit approach), has been particularly fruitful in identifying tax discrepancies. For instance, the most recent data reported in the Annual Report of New Zealand Inland Revenue (2008) indicates a net total discrepancies of NZ$1,449 million as compared to only NZ$996 million in the previous year.

However, the Annual Report suggests that maintaining high levels of voluntary tax compliance is a problem. This is evidenced by the number of taxpayers who were required to file tax returns but did not submit their return forms in the past three years. Eighteen percent of individual taxpayers did not submit their tax return forms both in 2004-05 and 2005-06 years (New Zealand Inland Revenue, 2006), rising to 22 percent in the 2006-07 year (New Zealand Inland Revenue, 2007).

The above statistics were supported by a research undertaken by the IRD in the 2006-07 year (New Zealand Inland Revenue, 2007). This research, carried out on half a million return filing and paying tax events between 2001-2005 years, showed the following preliminary results: (1) 83 percent of the returns complied with the majority completing all relevant filing and tax paying obligations; (2) nine percent of returns had a moderate level of compliance issues; (3) and eight percent demonstrated poor levels of compliance. These findings indicate that at least 17 percent of individual taxpayers in New Zealand have not complied (in some form) with the tax system.[16] It is important to note that this research focuses on taxpayers who have some choice about compliance and excludes taxpayers who are employees and have tax deducted at source through the Pay As You Earn (PAYE) system (New Zealand Inland Revenue, 2007).

In addition, Caragata (1998) reports that the estimated tax gap in New Zealand has increased substantially from NZ$82 million in 1969 to NZ$3.2 billion in 1994. More recent data from the IRD reports an amount of NZ$996 million of tax discrepancies in 2006-07, of which NZ$375 million was due to the tax avoidance and evasion practices (New Zealand Inland Revenue, 2007). The figure shows an increase of 15 percent from the previous year. These statistics could possibly be attributable in part to the tax fairness issue as suggested by Etzioni (1986).[17]

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[16] The percentage could be higher since the research results clearly stated that most of taxpayers (83 percent) complied with the majority (i.e. not fully complying) of their filing and paying obligations.

[17] However, it must be noted that fairness of the tax system may not have an impact on hard-core evaders' decisions, etc.

The above discussion indicates that the use of the IRD Compliance Model contributes to increasing tax collection through focussed tax audits but not to the same level of promoting voluntary compliance. Thus, the issue of voluntary tax (non)compliance among taxpayers in New Zealand is a very relevant concern.

3. Literature Review and Hypotheses Development

This section provides an overview on the relevant literature on tax fairness perceptions, tax compliance and the variables under investigation, and is followed by hypotheses development.

3.1 Tax fairness perceptions

Previous studies indicate that fairness perceptions can take various forms. First, vertical fairness, which asserts that taxpayers with different economic situations should be taxed at different rates (Erich et al., 2006). This would result in higher income earners paying tax at higher rates than low-income earners. Another component is, horizontal fairness, defined as 'the equal treatment of equally circumstanced individuals' (Michael, 1978). In other words, horizontal fairness recommends that taxpayers of similar economic positions should pay the same amount of tax.

In addition to vertical and horizontal fairness, Bobek's (1997) study on the US tax system is also concerned with procedural fairness and policy fairness. Procedural fairness relates to the process employed to reach distribution outcomes while policy fairness deals with the content of the tax law. Another significant fairness dimension is exchange fairness (Gilligan & Richardson, 2005; Gerbing, 1988), which represents the exchange of contribution and benefit between taxpayers and government. This

dimension of fairness holds that taxpayers will have fair perceptions of the tax system if the benefits received from the government is equitable compared to their tax contributions.

Other dimensions of fairness include a preference for either progressive or proportional taxation (Turman, 1995), personal fairness, tax rate fairness, special provisions and general fairness (Gilligan & Richardson, 2005; Richardson, 2005; Christensen & Weichrich, 1996; Christensen et al., 1994; Gerbing, 1988).

The above review on studies of tax fairness suggests approximately ten dimensions of fairness. However, in this study, five dimensions are identified to be important in assessing the fairness of the income tax system. The dimensions are: overall fairness, exchange fairness, horizontal fairness, vertical fairness and administrative fairness. Overall fairness simply measures individuals' judgments whether the (income) tax system is generally fair or not. While exchange fairness is concerned with a reciprocal exchange between taxpayers and the government, horizontal fairness considers equal tax treatment among taxpayers in similar economic positions. Vertical fairness is assessed based on the ability to pay and preference for tax rate structure, either flat rate or progressive. Administrative fairness, on the other hand, relates to the content of the tax law (policy fairness), procedures employed by the tax authority (procedural fairness) and the fairness of punishments imposed (retributive fairness). Thus, based on the prior literature, it is therefore hypothesised that:

> H_1: *Fairness perceptions on the New Zealand income tax system is multi-dimensional.*

3.2 Tax compliance

In this study, tax compliance is assumed to take place when a taxpayer files all required tax returns at the proper time and that these returns accurately report tax liability in accordance with the tax law applicable at the time the return is filed. This definition is adopted from Roth et al. (1989), as it provides a better definition when compared to the definition used by Jackson and Milliron (1986) (refer to Richardson & Sawyer, 2001).

Numerous studies have been published on the relationship between tax fairness perceptions and tax compliance. Survey data from 1960-1980 by Etzioni (1986) documented that the fairness perception is more likely to affect tax compliance rather than tax rates. Turman (1995) and Roth et al. (1989) confirmed that fairness perceptions influence tax compliance behavior. Similarly, Gilligan and Richardson (2005), Roberts (1994), Hite and Roberts (1992), Porcano and Price (1992), Harris (1989), and Song and Yarbrough (1978) found tax compliance to be significantly associated with perceptions of an improved tax system.

A recent cross-cultural study by Richardson (2005a) on tax fairness perceptions and tax compliance behavior in Australia and Hong Kong documented that tax fairness perceptions about general fairness have a significant impact on tax compliance behavior in both countries. Additionally, in Australia, it was found that tax fairness perceptions about special provisions, tax rate structure and self interest have some significant relationships with tax compliance behavior. Given the foregoing discussion, it is further hypothesised that:

H$_2$: New Zealand taxpayers perceive fairness dimensions$_{1 \text{ to } k}$ positively and significantly influence tax compliance behavior.

3.3   Tax knowledge

Tax knowledge is an essential element in a voluntary compliance tax system (Kasipillai, 2000), particularly in determining an accurate tax liability (Palil, 2005). Without tax knowledge, there is a tendency for taxpayers not to comply with the tax law either intentionally or unintentionally. This is postulated by McKerchar (1995) who studied small business taxpayers. She suggests that small business taxpayers are not even aware of their tax knowledge shortfall and this may lead to unintentional non-compliance behavior.

The influence of tax knowledge on fairness perceptions was documented by Schisler (1995), who carried out a study comparing tax preparers and taxpayers. Schisler found that taxpayers have significantly lower fairness perceptions compared to tax preparers. The result might be due to the absence of tax knowledge among taxpayers compared to tax preparers. Fallan (1999) later confirmed Schisler's (1995) findings that tax knowledge significantly changed attitudes towards the fairness of the tax system. In that experimental study, the author measured tax knowledge through an additive index of 12 questions concerning tax allowances and tax liabilities.

Unlike Fallan (1999), who simply focused on technical knowledge of tax, an earlier study by Harris (1989) separated tax knowledge into fiscal awareness and technical knowledge, in order to observe the impact of each type of knowledge on fairness perceptions. The findings reveal that types of tax knowledge impact fairness

perceptions and consequently compliance behavior. This study is supported by White et al. (1990), who suggested that a formal class in taxation would enhance the knowledge about the law and appreciation of fiscal policy goals, thus increasing perceived fairness.

Despite the evidence that fairness is a multi-dimensional construct, these prior studies tend to focus on the effect of tax knowledge on the overall fairness of the tax system rather than on each dimension of fairness. To critically assess the role of tax knowledge on fairness perceptions of the tax system, I believe it is essential not only to distinguish the types of knowledge, but also the dimensions of fairness that the type of knowledge has affected. Having said that, this study examines the impact of tax knowledge on five dimensions of fairness as discussed earlier. Thus, it is hypothesised that:

> H_3: *Tax knowledge positively influences the dimensions of fairness perception$_{1\ to\ k}$ of New Zealand taxpayers.*

3.4   Tax complexity

Tax complexity arises due to the increased sophisticatication in the tax law (Richardson & Sawyer, 2001). In New Zealand, Tan and Tower (1992) claimed that the efforts made by the tax authority at that stage to simplify the tax law had failed. In their study, the authors applied the Flesch Reading Ease Index to measure the readability level of New Zealand tax legislation, Tax Information Bulletins (TIBs) and Tax Return Guides. The Flesch Reading Ease Index measures the difficulty ranging from zero (most difficult) to 100 (least difficult). The authors' findings indicated that there was no progress with simplification at that time, except for the Tax Return

Guides. Tan and Tower (1992) recommend that shorter sentences and active style of writing will help improve the readability of tax legislation and consequently reduce the complexity of the tax law.

A more recent study by Pau et al. (2007) provides contrary evidence on tax simplification in New Zealand. The researchers test the effectiveness of the (then) newly written Income Tax Act 2004[18] (partially completed), TIBs and binding rulings using readability measures, namely the Flesch Reading Ease Index, Flesch-Kincaid Grade Level Index, average sentence length and percentage of passive sentences. Pau et al. (2007) found significant improvements in respect of tax simplicity through these measures. Sawyer (2007) agrees with the authors that there have been some improvements in tax simplification but continual change to the legislation has to a certain extent delayed the rewrite programme (and also delayed the benefits). As a consequence, the rewrite programme has only recently been completed, after more than a decade.[19]

Some researchers agree that a certain degree of complexity in the income tax system is necessary to ensure the system is fair. This is particularly applicable to the perceptions of the tax authority and tax professionals, suggests White (1990). Applying four scenarios of tax complexity, she asserts that both the tax authority and tax professionals (tax lawyers and tax accountants) prefer complexity in the tax law but at different levels. The tax authority prefers tax complexity that will increase their

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[18] This legislation contains further changes to Parts A and B, the rewritten sections of Parts C, D and E, with re-enactment of the remaining parts of the Income Tax Act (Pau et al., 2007).

[19] The rewrite programme started in 1993 and the final stage was passed by the New Zealand Parliament on October 25, 2007 (Sawyer, 2007).

probability to win the cases in disputes, while tax lawyers on the other hand are in favor of tax complexity that gives rise to a higher probability that the taxpayers will win the case. Similarly, tax accountants' preferences are also towards a high level of tax complexity as it will increase the demand for their tax services. In his critique and extension of White's study, Sawyer (1996) suggests that the tax authority prefers a lower level of tax complexity than indicated in White (1990), and the tax authority may benefit most when the level of complexity is close to zero in some circumstances.

Notwithstanding preferences by the tax authority and tax professionals, tax complexity actually causes negative perceptions of fairness among taxpayers (Cialdini, 1989; Carroll, 1987). Milliron (1985) claims in her study of jurors that the participants viewed complexity and fairness as distinct but incompatible features of the income tax system. Erich et al. (2006) share a similar view on the inverse relationship between complexity and fairness perceptions. In their study on Australian taxpayers and tax officers, Erich et al. (2006) claim that complexity in tax law results in a negative perception of the tax system and consequently encourages an unwillingness to comply. Based on the foregoing discussion, it is therefore hypothesised that:

> H_4: *Tax complexity negatively influences the dimensions of fairness perception$_{1\ to\ k}$ of New Zealand taxpayers.*

3.5 Theory of Planned Behavior

The Theory of Planned Behavior (TPB) is the extended version of the Theory of Reasoned Action (TRA), and is a dominant theoretical framework used in explaining

human behavior (Ajzen, 1991). The TPB model depicts that behavioral intention is the immediate determinant of the actual behavior. Behavioral intention is, in turn, determined by attitude towards behavior, subjective norm and perceived behavioral control. Some examples that have successfully applied TPB in predicting behaviors include speeding (Paris & Broucke, 2008), adolescent smoking (Guo et al., 2007) and cardiopulmonary resuscitation (CPR) involvement (Dwyer & Williams, 2002). In a taxation context, Bobek (1997) applied the TPB model with the inclusion of the moral obligation variable.

3.5.1   Attitude towards compliance

Ajzen (1991) stipulates that attitude towards compliance reflects feelings of favor and disfavor towards compliance behavior. The contention has been shown by Davis et al. (1989) in information technology studies. In a taxation context, Bobek (1997) found that attitude explains compliance behavior when the belief-based attitude measure is used. A recent study by Loo et al. (2007) also emphasizes that attitude towards the tax system positively influences the compliance behavior. Thus, it is anticipated in this study, that a positive attitude towards the tax system would encourage taxpayers to comply and vice versa.

3.5.2   Subjective norm

Subjective norm reflects motivation to conform with significant referents either to comply or not comply with tax obligations. A review of factors affecting compliance from 1986 to 1997 reveals compliance with peers as significantly related to compliance behavior (Richardson & Sawyer, 2001). This view is supported by Bobek (1997) who found that subjective norm significantly affects compliance

behavior in a business deduction scenario. A comparative study in Australia, Singapore and the US by Bobek et al. (2007) also found subjective norm as an influential factor in explaining tax compliance behavior. Based on the literature, I expect subjective norm would positively influence taxpayers in their compliance decisions.

3.5.3 Perceived behavioral control

Perceived behavioral control reflects an individual's perception on the ease or difficulty in performing a particular behavior. Azjen (1985) stipulates that a behavior that is easy to perform is high in perceived behavioral control, while one that is difficult to perform is low in perceived behavioral control. Furthermore, the author suggests that an individual with high perceived behavioral control will be more likely to perform the behavior in context than an individual with lower perceived behavioral control.

In tax compliance behavior research, when a taxpayer believes that he or she can successfully complete and file the tax return forms with Inland Revenue without any mistakes, the person seems to have a high perceived behavioral control and is more likely to comply with their tax obligations. Likewise, if a taxpayer believes that he or she can avoid paying tax without being caught by a tax audit, the person also seems to have a high perceived behavioral control over non-complying, and thus, is more likely to avoid paying tax.

In this study, I am interested in respondents' perceived behavioral control over non-complying with tax obligations. In particular, I anticipate that the higher the perceived

behavioral control, the more likely that the taxpayers would avoid compliance. Based on the foregoing discussion on the TPB, it is therefore hypothesised that:

H_{5a}: *Attitude towards compliance and subjective norm positively influence tax compliance behavior of New Zealand taxpayers; and*

H_{5b}: *Perceived behavioral control negatively influences tax compliance behavior of New Zealand taxpayers.*

As indicated earlier, perceived behavioral control deals with how taxpayers perceive relative easiness and difficulty in non-complying with tax obligations. As taxation is inherently a complicated matter, it is more likely that taxpayer's control over non-complying with tax obligations is influenced by resources and obstacles. Based on this argument, it is appropriate to investigate the impact of tax knowledge (resources) and tax complexity (obstacles) on perceived behavioral control. Therefore, it is hypothesised that:

H_{6a}: *Tax knowledge positively influences perceived behavioral control of New Zealand taxpayers.*

H_{6b}: *Tax complexity negatively influences perceived behavioral control of New Zealand taxpayers.*

4.   Proposed Model

I now propose a model, as set out in Figure 2, that incorporates the factors that may influence fairness perceptions and compliance behaviour as discussed earlier. A description of each construct employed in the model is also presented.

FIGURE 2
Factors Affecting Fairness Perceptions and Compliance Behavior
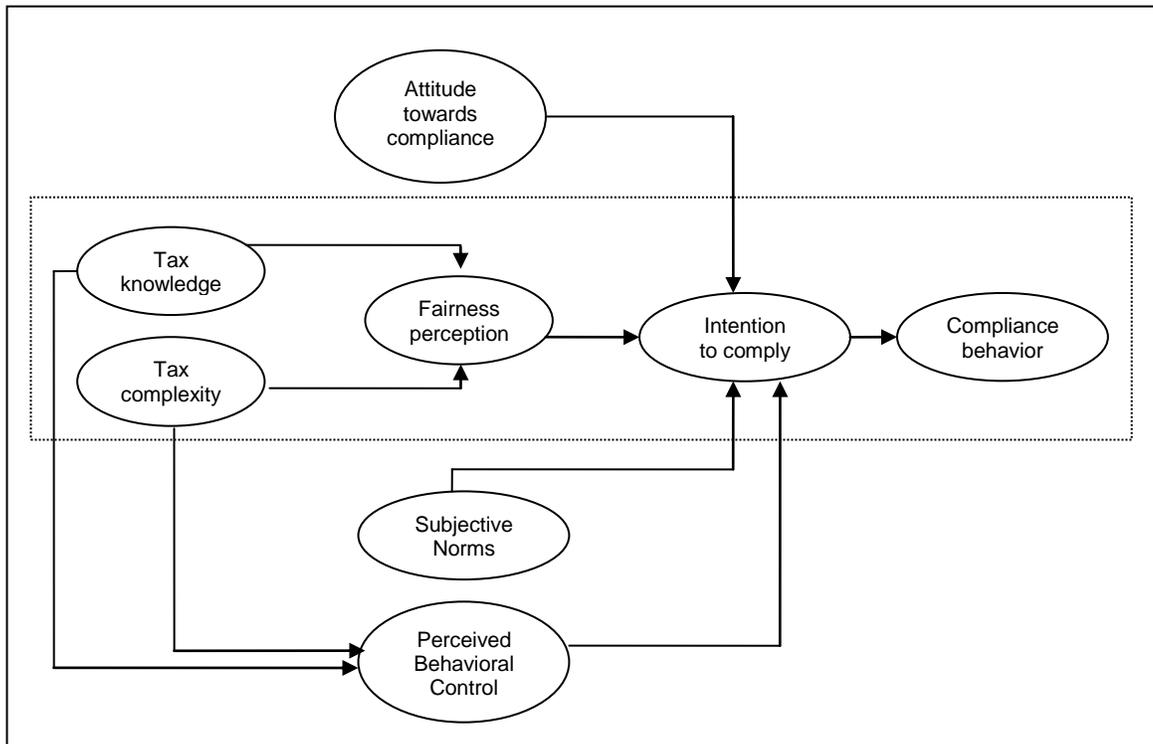
5.   Methodology

This section outlines the data collection and sampling characteristics, measurement

techniques, demographic information and data analysis.

5.1   Data collection and Sampling

Data were collected through a postal survey. A total of 2,267 questionnaires were

mailed to taxpayers. The questionnaire included a total of 85 items, including items

not included in the analysis within this study. Since there is no identifying coding on

the questionnaire, a reminder was mailed to all of those in the first mail out to

increase the response rate. A total of 229 usable responses were received for a

response rate of 10 percent. While the response rate is low (refer Slemrod & Venkatesh, 2002) the absolute number of responses is sufficient for further analysis. The sample comprise of New Zealanders listed on the 2008 Preliminary Electoral Roll. The Electoral Roll is a list of all registered New Zealand voters over the age of 18 years and will include most New Zealand individual taxpayers. A major limitation is that it will also include taxpayers who do not have to file tax returns but receive a Personal Tax Summary (PTS). Nonetheless, the use of the Electoral Roll in tax studies has been previously undertaken in New Zealand by Hasseldine et al. (1994).

5.2   Measurement techniques

Twelve items were used to measure the five dimensions of fairness. Out of these, four items were adapted from the previous study (Gilligan & Richardson, 2005) while the remaining items were self-developed with reference to the concept of fairness in Equity Theory and the New Zealand income tax system. The items were scaled such that a higher number reflects a fairer perception.

For compliance behavior, a hypothetical tax scenario relating to overstating expenses was developed. Following the scenario, 14 statements relating to the TPB variables (intention, attitude, subjective norm and perceived behavioral control) were generated and the respondents were requested to express their opinions on the statements. Intention, attitude and subjective norm were scaled such that a higher number corresponds to more compliance with tax obligations. In this study, compliance behavior was measured through its proxy, intention to comply. Perceived behavioral control, on the other hand, measures control over non-

complying with tax obligations and was scaled such that a higher number reflects higher control over non-compliance.

Three items to measure tax knowledge were developed based on various definitions available in previous studies. These items represent general knowledge, legal knowledge and technical knowledge. To measure tax complexity, six items were developed measuring both content and compliance complexity. Tax knowledge was coded such that a higher number reflects higher tax knowledge. Tax complexity, on the other hand, was scaled such that a higher number corresponds to a lower level of tax complexity.

All items were developed based on the 7-point Likert Scale, from strongly disagree (1) to strongly agree (7). In addition, respondents were also asked to provide demographic background information, including age, gender, ethnicity, education level, annual income, source of income and filing experience.

5.3   Demographic information

The relevant demographic information of the sample and the descriptive analysis of the responses are set out in Table 1, Table 2 and Table 3, respectively.

From Table 1, it shows that 60.7 percent of the respondents are in the range of 30s to late 50s age group. While male and female respondents are almost equally represented, 50 percent of them are at least, holders of a diploma or degree. With regard to filing experience, the majority (73 percent) have filed their tax returns for more than five times.

TABLE 1
Summary of Demographic Data (n = 229)

Variable	Frequency	Percent	Variable	Frequency	Percent
Age (years)			**Annual income**		
Under 20	3	1.3	Less than $20,000	44	19.2
20-29	18	7.9	$20,000-$30,000	25	10.9
30-39	41	17.9	$30,001-$40,000	30	13.1
40-49	50	21.8	$40,001-$50,000	27	11.8
50-59	48	21.0	$50,001-$60,000	29	12.7
60 or over	69	30.1	$60,001-$70,000	17	7.4
Gender			$70,001 or more	57	24.9
Male	109	47.6	**Source of income**		
Female	120	52.4	Salary/wages	132	57.6
Ethnicity			Interest/dividends	26	11.4
NZ European	190	83.0	Rent	10	4.4
Maori	8	3.5	Royalties	1	0.4
Polynesian	1	0.4	Self-employed	28	12.2
Indian	1	0.4	Benefits	21	9.2
Chinese	5	2.2	Others	11	4.8
Non-Chinese Asian	3	1.3	**Filing experience**		
Other	21	9.2	Never	17	7.4
Education level			Once	10	4.4
No formal schooling	22	9.6	2-5 times	35	15.3
Year 11 or NCEA level 1	36	15.7	More than 5 times	167	72.9
Year 12 or NCEA level 2	21	9.2			
Year 13 or NCEA level 3	34	14.8			
Diploma or degree	77	33.6			
Honours degree	13	5.7			
Masters or PhD	26	11.4			

Table 2 describes respondents' perceptions on the fairness of the income tax system, tax knowledge and tax complexity. Referring to the mean, it appears that taxpayers have positive perceptions on the tax system in relation to overall fairness and horizontal fairness, but negative perceptions on exchange fairness. Taxpayers have neutral perceptions on vertical fairness and administrative fairness. The respondents consider themselves as knowledgeable about tax, yet view the tax system as complex.

TABLE 2
Descriptive Statistics for Fairness Perceptions,
Tax Knowledge and Tax Complexity Items
_____

	Mean	Std. Deviation
Fairness Perception		
Overall Fairness		
OF1	4.61	1.53
OF2	5.34	1.76
Exchange Fairness		
EF1	3.68	1.75
EF2	2.85	1.61
Horizontal Fairness		
HF1	5.56	1.46
HF2	5.55	1.29
HF3	5.17	1.64
Vertical Fairness		
VF2	4.73	1.60
VF3	3.74	1.68
Administrative Fairness		
AF1	3.9	1.36
AF2	4.01	1.37
AF3	4.02	1.43
Tax Knowledge		
TK1	5.59	1.77
TK2	5.86	1.54
TK3	5.55	1.71
Tax Complexity		
TC1	3.97	1.81
TC2	3.84	1.60
TC3	4.07	1.48
TC4	3.73	1.63
TC5	4.85	1.77
TC6	3.52	1.92

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Table 3 exhibits higher mean for intention, subjective norm and attitude, indicating respondents likelihood to compliance behavior. A lower mean for perceived behavioural control indicates less control over avoiding tax, which also subsequently results in higher compliance.

TABLE 3
Descriptive Statistics for Theory of Planned Behaviour Items

	Mean	Std. Deviation
Intention		
INT1	5.82	1.67
INT2	5.75	1.76
INT3	5.99	1.47
Subjective Norm		
SNR1	4.88	1.80
SNR2	5.28	1.62
SNR3	5.19	1.60
SNR4	4.95	1.67
Attitude		
ATD1	5.32	1.79
ATD2	5.70	1.65
ATD3	6.00	1.36
Perceived Behavioural Control		
PBC1	3.39	1.80
PBC2	3.59	1.84
PBC3	3.15	1.84
PBC4	3.13	1.76

5.4 Analysis

The hypothesised model was analysed using a partial least squares (PLS) approach.

This approach is suitable for models with latent variables which cannot be measured

directly. In addition, PLS is considered appropriate due to its ability to model latent

constructs under conditions of nonnormality and small to medium sample sizes

(Jones et al., 2002; Chin, 1998; Chin & Gopal, 1995). The model was tested by

performing a bootstrap procedure in the PLS.[20]

Prior to analyzing the structural model, several statistical analyses were carried out.

To ensure that the respondents are representative of the respective populations, a

non-response bias test was performed by comparing early responses to responses

generated after follow-ups. There was no significant differences found between the

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[20] The software used for the analysis was PLSGraph Version 3.0 developed by Professor Wynne Chin of the University of Houston.

two groups enabling the researchers to conclude that there was no evidence of any nonresponse bias.

To examine the reliability of the constructs, a measure of internal consistency, known as composite reliability, was computed. The results (as exhibited in Table 4) indicate that the composite reliability for all constructs were above the threshold level of 0.6 (Bagozzi & Yi, 1988).

Convergent validity was examined by looking at two indices: (1) the individual item loadings on the constructs; and (2) the average variance extracted (AVE). From 21 items measuring fairness perceptions, tax knowledge and tax complexity, the individual item loadings on the constructs were all highly significant at 0.7 and above (Dibbern & Chin, 2005) with a significant t-value of 0.05 level (Gefen & Straub, 2005), with the exception of six items. In relation to tax compliance behavior constructs, all items except for one item measuring perceived behavioral control (with item loading of 0.639), were highly significant with individual loadings of 0.7 and above. The item with a loading below 0.7, however, may still be acceptable since there are other additional indicators for that construct (Chin, 1998). In terms of AVE, all constructs in that Scenario had values above the threshold of 0.5 (Bagozzi & Yi, 1988). Tax complexity had a marginally low AVE of 0.46 (refer Table 4).

TABLE 4
Reliability and Convergent Validity of the Constructs

	Loading	Composite Reliability	Avg. Variance Extracted
Overall Fairness (OF)		0.752	0.610
OF1	0.911		
OF2	0.625		
Exchange Fairness (EF)		0.856	0.749
EF1	0.895		
EF2	0.835		

Horizontal Fairness (HF)		0.831	0.625
HF1	0.767		
HF2	0.914		
HF3	0.672		
Vertical Fairness (VF)		0.787	0.651
VF1	0.719		
VF2	0.889		
Administrative Fairness (AF)		0.755	0.506
AF1	0.705		
AF2	0.736		
AF3	0.693		
Tax Knowledge (TK)		0.776	0.540
TK1	0.627		
TK2	0.850		
TK3	0.710		
Tax Complexity (TC)		0.835	0.460
TC1	0.731		
TC2	0.700		
TC3	0.713		
TC4	0.722		
TC5	0.617		
TC6	0.574		
Attitude (ATD)		0.893	0.736
ATD1	0.893		
ATD2	0.915		
ATD3	0.756		
Subjective Norm (SNM)		0.885	0.658
SNM1	0.785		
SNM2	0.801		
SNM3	0.872		
SNM4	0.784		
Perceived Behavioral Control (PBC)		0.861	0.612
PBC1	0.745		
PBC2	0.639		
PBC3	0.871		
PBC4	0.851		
Intention (INT)		0.877	0.703
INT1	0.846		
INT2	0.799		
INT3	0.870		

To assess discriminant validity, the average variance extracted shoud be compared against the correlations among constructs. As a rule of thumb, the AVE of each construct should be larger than the correlation of the specific construct with any of the other constructs in the model (Gefen et al., 2000) to assure the discriminant validity. This condition was met in this study as exhibited in Table 5, suggesting the existence of discriminant validity.

Table 5
Discriminant Validity of the Constructs

	OF	EF	HF	VF	AF	TK	TC	ATD	SNM	PBC	INT
OF	**0.610**										
EF	0.294	**0.749**									
HF	0.120	-0.019	**0.625**								
VF	0.144	0.369	0.139	**0.651**							
AF	0.165	0.311	-0.010	0.119	**0.506**						
TK	0.052	-0.105	0.092	0.100	-0.153	**0.540**					
TC	0.187	0.264	0.083	0.045	0.336	0.084	**0.460**				
ATD	0.032	0.012	0.080	0.080	-0.009	0.181	0.089	**0.736**			
SNM	0.043	0.020	0.133	-0.027	-0.083	0.300	0.138	0.536	**0.658**		
PBC	-0.073	-0.023	-0.125	-0.083	0.188	-0.058	0.107	-0.394	-0.262	**0.612**	
INT	0.123	-0.076	0.067	0.122	-0.106	0.365	0.050	0.685	0.505	-0.281	**0.703**

Figures in diagonal represent the average variance extracted.

6. Results

Figure 3 presents the results. The R^2 for the intention to comply at 0.538 is a considerable improvement over the reported R^2 in Bobek (1997), who studied the determinants of non-compliance behavior. The path coefficients on variables under study are also provided. In relation to the direct effects of fairness perceptions on compliance behavior, it is found that horizontal fairness was not a significant factor. All other dimensions of fairness were significant at the 0.025 level, except for administrative fairness, which was marginally significant at the 0.10 level. Both overall fairness and vertical fairness positively influenced compliance behavior. Surprisingly, however, path coefficients for exchange fairness and administrative fairness indicate the opposite direction to that expected.

The TPB variables were highly significant at the 0.001 (attitude) and 0.005 (subjective norm) levels. As expected, attitude and subjective norm positively influenced compliance behavior. Perceived behavioral control had a negative effect on compliance behavior but not significant.

FIGURE 3
Path Coefficients
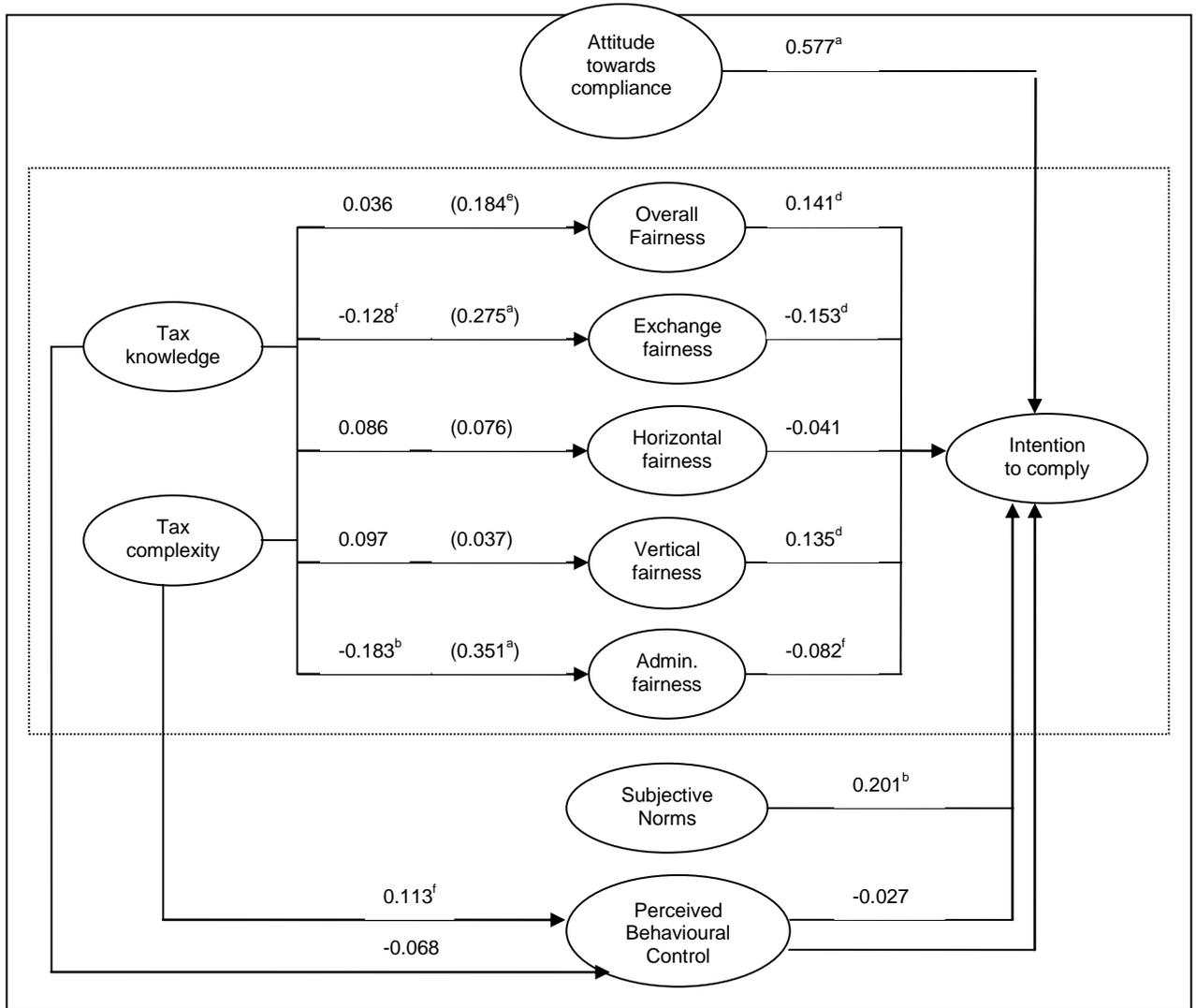
Notes:
Figures in parentheses are path coefficient for tax complexity on fairness perceptions.
$R^2 = 0.538$
[a] $p<0.001$
[b] $p<0.005$
[c] $p<0.010$
[d] $p<0.025$
[e] $p<0.050$
[f] $p<0.100$

159

The model also describes the path coefficients for tax knowledge and tax complexity on fairness perceptions. The results show that tax knowledge had negative direct effects on exchange fairness and administrative fairness at the 0.10 and 0.005 levels, respectively. Other variables were not significant. For tax complexity, the results reveal that horizontal fairness and vertical fairness were not significant. The other paths had a significant positive influence on fairness perceptions at the 0.001 level, except for overall fairness with significant level of 0.05. Tax complexity (but not tax knowledge) had a significant positive influence on perceived behavioral control at the 0.10 level.

7.   Discussion

The purpose of this study was to examine the fairness perceptions of New Zealand taxpayers on the income tax system and how their perceptions influence the compliance behavior. In so doing, I used a well-established model of the TPB. The TPB model provides a theoretical framework of behavioral determinants consisting of attitude, subjective norm and perceived behavioral control. For the purpose of this study, fairness perceptions were included to extend the existing TPB model, particularly in the tax compliance environment. The TPB model was tested using the data obtained from actual taxpayers. Overall, the results suggest that the TPB model fits the data well.

This study reveals that taxpayers view fairness of the income tax system from various perspectives, namely overall fairness, exchange fairness, horizontal fairness, vertical fairness and administrative fairness. This is consistent with previous studies which contend that fairness perceptions are multidimensional (Gilligan & Richardson,

2005; and Gerbing, 1988). Thus, the findings provide support for Hypothesis 1 that fairness perceptions are multidimensional.

Hypothesis 2 predicts that fairness perceptions will positively influence compliance behavior. Specifically, the hypothesis suggests that the fairer taxpayers perceive the tax system, the more likely they will comply with their tax obligations. However, this is only correct for overall fairness and vertical fairness. The findings support the concept in Equity Theory and are consistent with previous studies (for example, Gilligan & Richardson, 2005; Turman, 1995; Roberts, 1994; and Porcano & Price, 1992). Other fairness dimensions, however, are not significant. Surprisingly, exchange fairness is found to have a negative effect on compliance behavior. A possible explanation for this is that the mean for the exchange fairness variable is below 4.0, suggesting that most respondents perceived the tax system as unfair. Similarly, the inverse relationship between administrative fairness and compliance behavior may be attributable to the fact that the respondents are neutral about administrative fairness as indicated by its mean of 4.0.

Tax knowledge proves to have an influence on exchange fairness and administrative fairness. The findings, however, do not provide support to Hypothesis 3 which predicted that tax knowledge will positively influence fairness perceptions. Also, the findings are not consistent with previous studies (Fallan, 1999; White et al., 1990; and Harris, 1989), which claimed that tax knowledge will increase fairness perceptions. The negative relationship, on the other hand, suggests that taxpayers with a higher of level of tax knowledge found these fairness dimensions to be unfair. This result may have arisen because the majority of respondents have a good

knowledge of tax (based on the fact that 73 percent have filed their tax returns more than five times and 50 percent are at least diploma or degree holders), and they perhaps felt that they are not receiving sufficient benefits in return for their tax paid. In relation to the inverse relationship between tax knowledge and administrative fairness, this is possibly due to the fact that the respondents are unsure about administrative fairness itself.

With regard to tax complexity, the findings indicate that overall fairness, exchange fairness and administrative fairness are highly influenced by tax complexity. The findings are consistent with Hypothesis 4, which suggests that tax complexity has an inverse relationship with fairness perceptions. Specifically this study confirms that a lower level of tax complexity has positively influenced fairness perceptions as reported in previous studies (Erich et al., 2006; Cialdini, 1989; Carroll, 1987; and Milliron, 1985).

The use of the TPB model in tax compliance behavior offers a good explanation of taxpayers' behavior. Attitude and subjective norm proved to be significant factors but not the perceived behavioral control. While attitude and subjective norm have positive coefficients, the perceived behavioral control has a negative coefficient (but not significant). In other words, the results suggest that the higher the attitude towards compliance, the more likely a taxpayer will comply with his or her tax obligations. Similarly, the higher a taxpayer's motivation to comply with his or her referent group, the higher would be their compliance. The findings provide support to Hypothesis 5a. This suggests that the TPB is not limited to predicting unethical behaviors in information systems (Dwyer & Williams, 2002) and other human

behaviors (Paris & Broucke, 2008; Guo et al., 2007; and Chang, 1998), but is also useful in explaining tax compliance behavior.

The final hypothesis predicts that tax knowledge and (tax complexity) will positively and (negatively) influence perceived behavioral control. Specifically, I anticipate a higher level of tax knowledge will result in a higher perceived behavioral control while a higher level of tax complexity will result in a lower perceived behavioral control. The findings on these variables, however, show insignificant results with an exception to the influence of tax complexity on perceived behavioral control. Specifically, the results indicate that taxpayers' perceived behavioral control are higher when the level of tax complexity is low and vice versa. This is consistent with the hypothesis that tax complexity is inversely related with perceived behavioral control.

8.   Conclusion, Limitations and Future Research

The study has identified several dimensions of fairness perceptions as being important determinants of compliance behavior. Furthermore, it provides evidence that attitude and subjective norm as highlighted in the TPB, are also significantly influential. This empirical evidence should add to the literature on compliance behavior. In New Zealand particularly, the findings would provide an important update on the existing evidence documented by Hasseldine et al. (1994) and Tan (1998). Furthermore, the findings should be beneficial to policy makers and the tax authority as they highlight the fairness dimensions and relevant factors that need attention. For instance, the tax authority and policy makers should pay more

attention to providing the necessary facilities or infrastructure (for example, education, health, social welfare) to taxpayers, in return for their tax paid. This implies exchange fairness, of which the taxpayers in this study were more concerned with.

This study should also help tax researchers generally to understand the role of tax knowledge and tax complexity in fairness perceptions. For policy makers, the empirical evidence offers guidance in developing tax education and simplification programmes. Last, but by no means least, this study provides clear evidence that the TPB model has significant potential to contribute to the tax compliance literature. The extension to the TPB model in a tax environment seems to be a fruitful area for future research.

This study, however, is not without limitations. First, the survey response rate of 10 percent is considered low by comparison to previous research. However, with an absolute number of 229 responses, this is sufficient to provide the basis for thorough analysis. Second, the convergent validity analysis on the constructs indicate a lower item loadings than the recommended threshold of 0.7 for some of the items. Notwithstanding the low loadings, the items are still acceptable for further analysis (Chin, 1998). Future research should continue to extend the theoretical model of the TPB in the tax literature as it offers a good explanation of compliance behavior. Possibly researchers could decompose the TPB variables to gain a better insight into the determining factors. In addition, a survey on fairness perceptions among tax professionals would also be an interesting area for research.

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1.3 Earnings Management

DOES INVESTOR PROTECTION AFFECT THE CHOICE OF EARNINGS MANAGEMENT METHODS THROUGH REAL ACTIVITY MANIPULATION AND ACCRUAL MANIPULATION? ASIAN COMPARISON

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Abstract

This paper examines systematic differences in earnings management through real activity manipulation and accrual manipulation across 7 Asia countries. We propose arguments that in economies with high investor protection, manager prefer to manage earnings through real activity manipulation rather than through accrual manipulation because accrual manipulation is more likely to draw auditors or regulators scrutiny than real decisions about pricing and production. Our findings are consistent with our prediction. Despite being in economies with high investor protection, managers still have bigger discretion in managing earnings through real activities rather than accrual manipulation.

Keyword: earnings management, real activity manipulation, investor protection

INTRODUCTION

The protection of investor rights, particularly outside investors, is important in creating economic incentives for the development of financial markets (Hart, 1995). More developed financial markets create greater external financing opportunities for firms because legal systems protect investors by conferring on them rights to discipline insiders (e.g., to replace managers), as well as by enforcing contracts designed to limit insiders' private control benefits (e.g., La Porta et al., 1998; Nenova,

2000; Claessens et al., 2002; Dyck and Zingales, 2002).2 Thus, legal systems protecting outside investors reduce insiders' need to conceal their activities.

This paper focuses on investor protection as a significant determinant of earnings management activity. Leuz (2003) argues that strong and well-enforced outsider rights limit insiders' acquisition of private control benefits, and consequently, mitigate insiders' incentives to manage accounting earnings because they have little to conceal from outsiders. This insight suggests that the pervasiveness of earnings management is increasing in private control benefits and decreasing in outside investor protection.

Prior research documents greater financial transparency in countries with stronger investor protection regimes (Bhattacharya et al. 2003; Bushman et al. 2004), and there is evidence that earnings are less managed and in these countries (e.g., Ball et al. 2000; Hung 2000; Leuz et al. 2003). Leuz finds that earnings management is more pervasive in countries where the legal protection of outside investors is weak, because in these countries insiders enjoy greater private control benefits and hence have stronger incentives to manipulate firm performance.

Roychowdhury (2006) finds evidence that managers in US firms manipulate earnings through real activity. Roychowdhury finds evidence suggesting price discounts to temporarily increase sales, overproduction to report lower cost of goods sold, and reduction of discretionary expenditures are used to improve reported margins. This is contrary to Leuz's finding that in countries with strong legal protection, managers are less aggressive to manage earnings. We argue that in

strong legal enforcement economies, managers prefer to manage earnings through real activity manipulation rather than through accrual manipulation.

The manipulation of real activity potentially reduces firm value. Real activities manipulation can reduce firm value because actions taken in the current period to increase earnings can have a negative effect on cash flows in future periods. For example, aggressive price discounts to increase sales volumes and meet some short-term earnings target can lead customers to expect such discounts in future periods as well. This can imply lower margins on future sales. Overproduction generates excess inventories that have to be sold in subsequent periods and imposes greater inventory holding costs on the company. There is evidence that managers manipulate real activity in strong investor protection country (Roychowdhury 2006). So the purpose of this study is to examine whether legal systems affect the choice of earnings management methods.

According to surveys conducted by Bruns and Merchant (1990) and Graham et al. (2005), financial executives indicate a greater willingness to manipulate earnings through real activities rather than accruals. There are at least two possible reasons for this. Firstly, accrual manipulation is more likely to draw auditor or regulator scrutiny than real decisions about pricing and production. Secondly, relying on accrual manipulation alone entails a risk. The realized year-end shortfall between un-manipulated earnings and the desired threshold can exceed the amount by which it is possible to manipulate accruals. If that happens, and reported income falls below the threshold, real activities cannot be manipulated at year-end. So, we argued that in countries with high investor protection, managers don't have discretionary to

manage earnings through accrual manipulation because accrual manipulation is easily to detect. Managers will prefer to manage earnings through real activities.

This study focuses on Asia countries to make contributing to the future of our society and Asia by expanding its range of the responsibilities through legal enforcement and investor protection in order to enhance economic development, mutual understanding and cooperation in Asia. The East Asian countries of Hong Kong, Malaysia, Singapore, Indonesia, Japan, Korea and India provide a useful setting for testing the importance of investor protection. These countries have accounting standards that are generally viewed as high-quality, but (with the possible exception of Hong Kong). They have institutional structures that give preparers incentives to issue low-quality financial reports. Reporting quality of earnings ultimately is determined by the underlying economic and political factors influencing managers' and auditors' incentives, and not by accounting standards per se. Shareholder litigation is an important mechanism to enforce high quality financial reporting—particularly timely loss recognition—in common-law countries. The Asian countries experience comparatively little litigation. Saudagaran and Diga (2000) report that there have been no cases of judicial actions against auditors in Malaysia and Thailand. While there have been lawsuits against auditors in Singapore and Hong Kong, they are less frequent than in common-law countries (Choi et al., 1999).

While prior research has provided evidence on managers' incentives for earnings management and earnings management more aggressive in countries with low legal enforcement but there is relatively little evidence on what manager's methods to manage earnings in different legal environment. In addition, prior

research used accrual manipulation to measure earnings management but actually managers have flexibility to manage earnings with accrual manipulation, real activities manipulation or classification shifting. This paper attempts to provide evidence that investor protection determines manager's choices between real activities manipulation versus accrual manipulation when they have the flexibility to engage both. To measure earnings management through real activity manipulation we use Roychowdhury's model.

Firstly, this study is useful to identify factors that affect method choice by manager to manage earnings. Secondly, this study gives our understanding to evaluate effectiveness of legal enforcement in protect outsider (minority) investor when manager have flexibility to choose earnings management method.

HYPOTHESIS

Legal systems protect investors by conferring on them rights to discipline insiders (e.g., to replace managers), as well as by enforcing contracts designed to limit insiders' private control benefits (e.g., La Porta et al., 1998; Nenova, 2000; Claessens et al., 2002; Dyck and Zingales, 2002).2 As a result, legal systems that effectively protect outside investors reduce insiders' need to conceal their activities. Earnings management can be defined as non-neutral financial reporting in which managers intervene intentionally in the financial reporting process to produce some private gain (Schipper 1989). Managers can intervene by modifying how they interpret financial accounting standards and accounting data, or by timing or structuring transactions (Healy and Wahlen 1999).

Prior accounting research has documented three main methods of earnings management. The most commonly studied method is accrual management (e.g., Healy 1985; Jones 1991; McNichols and Wilson 1988; Rangan 1998; Teoh et al. 1998; Phillips et al. 2003). A second type of earnings management can occur through the manipulation of real activities, such as providing price discounts to increase sales and cutting discretionary expenditures, to manage earnings (e.g., Baber et al. 1991; Dechow and Sloan 1991; Bushee 1998). Third type of earnings management tools is the misclassification of items within the income statement.

We focus on accrual manipulation and real activities because in study comparison across countries, earnings management through classification shifting can be detected if these countries use the same standard. Real activities manipulation as departures from normal operational practices is motivated by managers' desire to mislead at least some stakeholders into believing certain financial reporting goals have been met in the normal course of operations. These departures do not necessarily contribute to firm value but the departures enable managers to meet reporting goals. Certain real activities manipulation methods, such as price discounts and reduction of discretionary expenditures, are possibly optimal actions in certain economic circumstances. However, if managers engage in these activities more extensively with the objective of meeting/beating an earnings target, they are engaging in real activities manipulation (Roychowdhury, 2006).

Bruns and Merchant (1990) and Graham et al. (2005), indicate that financial executives have greater willingness to manipulate earnings through real activities rather than accruals. There are at least two possible reasons for this. Firstly, accrual

manipulation is more likely to draw auditor or regulator scrutiny than real decisions about pricing and production (Dechow, Sloan dan Sweeney 1996). Secondly, relying on accrual manipulation alone entails a risk. The realized year-end shortfall between un-manipulated earnings and the desired threshold can exceed the amount by which it is possible to manipulate accruals. If that happens, and reported income falls below the threshold, real activities cannot be manipulated at year-end.

A number of studies discuss the possibility that managerial intervention in the reporting of financial statement process can occur not only via accounting estimates and methods, but also through operational decisions. Manipulation by management through real activities is less likely to draw auditor or regulator scrutiny. In contrast accrual manipulation is more easily to detect. We therefore propose that earnings management through accrual manipulation is less pervasive in countries where the legal protection of outside investors is strong, because in these countries legal system protect investor by conferring on them right to discipline insider.

H1: There is negative relationship between investor protection and abnormal accruals. Countries with high investor protection exhibit lower abnormal accruals than in countries with weak investor protection.

There is evidence that manager in US firms manipulate earnings through real activity (Roychowdhury, 2006). US firms are characterized by large stock markets, low ownership concentration, extensive outsider rights, high disclosure, and strong legal enforcement. Leuz (2003) finds that in countries with strong legal protection,

176

managers are less aggressive to manage earnings through accrual manipulation. So we argue that in strong legal enforcement economies, managers prefer to manage earnings through real activity manipulation rather than accrual manipulation. Accrual manipulation is more easily to detect, in other hand, real activities manipulation can be subjective, auditors might be limited in their ability to verify the appropriate classification. In countries with low legal enforcement, managers have great discretionary to manage earnings with both accrual manipulation and real activity manipulation. In hypothesis 2 we argue that when legal enforcement strong, managers prefer to manage earnings through real activity manipulation, such as: sales manipulation, reduce discretionary expenses reduction and production increases rather than accrual manipulation.

H2b: There is positive relationship between investor protection and real activity manipulation.

RESEARCH METHOD

MEASUREMENT OF EARNINGS MANAGEMENT THROUGH REAL ACTIVITY MANIPULATION

Real activities manipulation is departures from normal operational practices, motivated by managers' desire to mislead at least some stakeholders into believing certain financial reporting goals have been met in the normal course of operations (Roychowdhury, 2006).

To detect real activities manipulation we investigate patterns in CFO and production costs following Roychowdhury (2006). Sales manipulation is defined as managers' attempts to temporarily increase sales during the year by offering price

discounts or more lenient credit terms. The cash inflow per sale, net of discounts, from these additional sales is lower as margins decline. The lower margin due to the price discounts causes production costs relative to sales to be abnormally high. These are essentially price discounts and lead to lower cash inflow over the life of the sales, as long as suppliers to the firm do not offer matching discounts on firm inputs. In general, sales management activities to lead to lower current-period CFO and higher production costs than what is normal given the sales level.

Following Roychowdhury (2006), normal cash flow from operations is a linear function of sales and change in sales in the current period. To estimate the model, we run the following cross-sectional regression:

$$CFO_t/At_{-1} = \alpha_0 + \alpha_1 (1/A_{t-1}) + \alpha_2 (S_t/A_{t-1}) + \alpha 3 (\Delta S_t / A_{t-1}) + \varepsilon t$$

where At is the total assets at the end of period t, St the sales during period t and ΔS_t = St – St_{-1}. For every firm-year, abnormal cash flow from operations is the actual CFO minus the "normal" CFO calculated using estimated coefficients from the corresponding industry year model and the firm-year's sales and lagged assets. Abnormal level = Actual level – Normal Level.

To manage earnings upward, managers of manufacturing firms can produce more goods than necessary to meet expected demand. With higher production levels, fixed overhead costs are spread over a larger number of units, lowering fixed costs per unit. As long as the reduction in fixed costs per unit is not offset by any increase in marginal cost per unit, total cost per unit declines. This implies that reported COGS is lower, and the firm reports better operating margins. Nevertheless, the firm

incurs production and holding costs on the over-produced items that are not recovered in the same period through sales. As a result, cash flows from operations are lower than normal given sales levels. Ceteris paribus, the incremental marginal costs incurred in producing the additional inventories result in higher annual production costs relative to sales.

The model for normal COGS is estimated as:

$$COGS_t/A_{t-1} = \alpha_0 + \alpha_1 (1/A_{t-1}) + \alpha_2 (S_t/A_{t-1}) + \varepsilon_t$$

The model for 'normal' inventory growth using the following regression:

$$\Delta INV_t/A_{t-1} = \alpha_0 + \alpha_1 (1/A_{t-1}) + \alpha_2 (\Delta S_t / A_{t-1}) ++ \alpha_3 (\Delta S_{t-1} / A_{t-1}) \varepsilon_t$$

where ΔINV_t is the change in inventory in period t.

Production costs as:

$$PROD_t = COGS_t + \Delta INV_t.$$

Using (2) and (3), normal production costs from the following industry-year regression:

$$PROD_t/A_{t-1} = \alpha_0 + \alpha_1 (1/A_{t-1}) + \alpha_2 (\Delta S_t/A_{t-1}) + \alpha_3 (\Delta S_t / A_{t-1}) + \alpha_4 (\Delta S_{t-1} / A_{t-1}) \varepsilon_t$$

Discretionary expenses be expressed as a linear function of contemporaneous sales, similar to COGS.

The relevant regression would then be:

$$DISEXP_t/A_{t-1} = \alpha_0 + \alpha_1 (1/A_{t-1}) + \alpha_2 (S_{t-1}/A_{t-1}) + \varepsilon_t$$

where DISEXPt is discretionary expenses in period t. Discretionary expenses as

DisExp = R&D + Advertising + SG&A expenses

MEASUREMENT ACCRUAL MANIPULATION

Signed abnormal accruals are used rather than absolute (unsigned) abnormal accruals (Hribar and Nichols, 2006). A cross-sectional Jones (1991) model is not practical for the calculation of abnormal accruals with international data because the number of industry observations per country can be quite small, and this may explain, at least in part, why Jones-type abnormal accruals perform unreliably in international settings (Wysocki 2004; Meuwissen et al. 2005). We avoid this problem by using a linear expectation model adapted from DeFond and Park (2001) which uses a firm's own prior year accruals in calculating the expectation benchmark. Specifically, expected accruals are based on a firm's prior year ratio of current accruals to sales, and the prior year's ratio of deprecation expense to gross property plant and equipment (hereafter PPE). Another benefit of this approach is that we also implicitly control for cross-country differences in accounting standards by using a firm as its own control to compute abnormal accruals. Therefore abnormal accruals are contextualized relative to the specific accounting standards of a particular country.

Using data from OSIRIS file, predicted accruals are calculated as:

Predicted accruals = {[$Sales_t$ x (current $accruals_{t-1}$ / $sales_{t-1}$] + gross PPE_t x (depreciation$_{t-1}$ /gross PPE_{t-1}/total $assets_{t-1}$].

Abnormal accruals = firm's actual total $accruals_t$ - predicted total $accruals_t$.

Total accruals in year t are calculated as follows:

Total accruals = {Earnings before extraordinary items – Operating cash flows}/ total assets$_{t-1}$

Current accruals = change in non-cash working capital = Δ[total current assets –

cash and short term investments – treasury stock shown as current assets – Δ[total current liabilities – total amount of debt in current liabilities – proposed dividends].

MEASUREMENT OF INVESTOR PROTECTION

We begin with a descriptive country cluster analysis, which groups countries with similar legal and institutional characteristics. We use multiple investor protection measures are:

1. Outside Investor Right; is an aggregate measure of minority shareholder rights and ranges from zero to five.

2. Disclosure requirements.

3. Important of equity market; is measured by the mean rank across three variables used in La Porta et al. (1997). Each variable is ranked such that higher scores indicate a greater importance of the stock market.

4. Legal enforcement; is measured as the mean score across three legal variables used in La Porta et al (1998). Three variables range from 0 to 10.

Cluster analysis is based on four measurement of investor protection. Then we compare score earnings management between clusters. We use accrual manipulation and real activities to measure earnings management activities.

To test H1a we compare abnormal accrual between clusters. To examine more explicitly which institutional factors are the determinant of earnings management, we undertake regression analysis based on model 1 to test H1:

Model 1: $AB\_ACCR_{it} = \beta 0 + \beta 1\ LAW + \beta 2\ OUTSIDE\_RIGHT + \beta 3\ DIS\_REQ + \beta 4 LEG\_ENF + \beta 5\ IM + e_{it}$ …………………………………………….(1)

To test H2a- H2b, we use model 2a-b:

Model 2a: AB_CFO = β0 + β1 LAW + β2 OUTSIDE_RIGHT + β3 DIS_REQ +

β4LEG_ENF + β5 IM + eit ……………………………………………...(2)

Model 2b: AB_Prod = β0 + β1 LAW + β2 OUTSIDE_RIGHT + β3 DIS_REQ +

β4LEG_ENF + β5 IM + eit ……………………………………………(3)

where:

AB_ACCRit = abnormal accruals scaled by lagged total assets for firm i in year t.

AB_CFO = abnormal cash flow

AB_DiscExp = abnormal discretionary expenses

AB_Prod = abnormal production cost

INVPRO = proxies of investor protection, measured six ways:

1. Outside_Right = outside investor right

2. DIS_REQ = index of disclosure requirement

3. LEG_ENF = legal enforcement.

4. IM = Important of equity market.

Because abnormal cash flow, discretionary expenses and production cost are more aggressive in suspect firm (firm close to zero earnings), we conduct sensitivity analysis to regress model 1 and 2 in full sample (suspect & non suspect firm).

RESULTS

Descriptive Statistics

Our data obtained from OSIRIS database, which contains financial data from annual reports of publicly traded around the world. Only industrial companies are included in empirical analysis. Each firm must have income statement and balance sheet

information for estimation period. The final sample consists of 5,931 firm-year observations, across 7 countries for fiscal years 1993-1997.

Table 1 panel A presents the number of firm-year observation per country as well as descriptive statistic for three individual earnings management measure. Panel B present institutional characteristics of each country

Table 1: Descriptive statistics for earnings management and institutional characteristics

Panel A. Country score for earnings management measures

Countries	Firm-Years	Abn CFO	Abn Prod Cost	Abn Acrual
Korea	1141	0,0012	-0,1281	0,0834
Japan	2785	0,0005	-0,0003	0,0631
Malaysia	792	0,0315	-0,0002	0,0561
India	566	-0,0269	0.0000	0,1201
Indonesia	129	0.0000	0.0000	0,0788
Hongkong	101	0.0002	0.0000	0,144
Singapore	398	0.0001	0,0055	0,0995

Panel B. Institutional characteristics of the sample countries

Countries	Outside Investor Right	Legal enforcement	Important Equity Market	disclosure Index	cluster (1:high, 3 low)
Korea	2	5.6	11.7	62	3
Japan	4	9.2	16.8	65	2
Malaysia	4	7.7	25.3	76	1
India	5	5.6	14	57	3
Indonesia	2	2.9	4.7	na	3
Hongkong	5	8.9	28.8	69	1
Singapore	4	8.9	28.8	78	1

Panel A of table 1 provides descriptive statistics for three individual earnings management measures. The three individual earnings management measures

exhibit striking differences across countries. The statistics of the mean abnormal CFO and abnormal production cost show that earnings management with real activity manipulation aggressive in economies with high investor protection such as Singapore, Hongkong compared to in economies with low investor protection such as Korea, India. The mean abnormal accrual is high in Singapore compared to Japan.

Result Earnings management with real activities manipulation

Table 2 presents descriptive statistics comparing suspect firm-year to the full sample. Firms that just meet the zero earnings (suspect firm) are probably try to meet the zero target earnings through real activities manipulation. Suspect firm-years have a lower mean of abnormal low CFO than non suspect firm (-0.0031 versus 0.0023). Mean of abnormal production cost is higher for suspect firm compared to non suspect firms (0.1388 versus -0.0074).

Table 2: Descriptive statistics comparing suspect firm-year to rest of the sample

	Suspect firm year	Non suspect firm	Rest of the sample
Full sample 5,931 firm-years with 273 suspect firm-year			
	means	means	means
Net Income/ TA	0,0029	0,0378	0,362
Abn Accruals	-0,0884	-0,0675	-0,0685
Abn CFO	-0,0031	0,0023	0,0021
Abn Prod	0,1388	-0,0074	-0,0006

Estimation model

Table 3 reports the regression coefficients for some of the key regression used to estimate 'normal level'. We estimate using the entire sample of 5,931 firm-years. The

coefficient generally as predicted by Roychowdhury (2006). The coefficient of CFO on sales change actually positive, for all country, and marginally significant, indicating that conditional on contemporaneous sales, a higher change in sales implies higher CFO.

Table 3 Model Parameters

	Indonesia		Malaysia		Japan		Hongkong		Korea	
	CFOt/At-1	Prodt/At-1	CFOt/At-1	Prodt/At-1	CFOt/At-1	Prodt/At-1	CFOt/At-1	Prodt/At-1	CFOt/At-1	Prodt/At-1
intercept	0.020	-0.119	0.046	-0.072	0.062	-0.140	0.037	-0.095	0.049	1.108
1/At-1	-2.35	-1.54	-3.36	-8.14	-8.86	-3.827	-1.137	-2.015	-5.83	-8.01
St/At-1	0.030	0.870	-0.003	0.874	-0.007	0.946	0.37	0.847	0.027	0.130
ΔSt/At-1	0.000	0.001	0.088	0.161	0.029	0.005	-0.19	0.107	-0.055	-0.089
ΔSt-1/At-1		-0.023		-0.079		-0.105		0.246		0.056
Adj R^2	0.035	0.896	0.058	0.923	0.015	0.933	0.012	0.925	0.057	0.07

*signifikan at level 10%

This table reports the estimated parameters in following regression:

$CFO_t/A_{t-1} = \alpha_0 + \alpha_1 (1/A_{t-1}) + \alpha_2 (S_t/A_{t-1}) + \alpha3 (\Delta S_t / A_{t-1}) + \varepsilon t$

$PROD_t/A_{t-1} = \alpha_0 + \alpha_1 (1/A_{t-1}) + \alpha_2 (\Delta S_t/A_{t-1}) + \alpha3 (\Delta S_t / A_{t-1}) + \alpha4 (\Delta S_{t-1} / A_{t-1})$ εt

Table 3 Model Parameters

	India		Singapore	
	CFOt/At-1	Prodt/At-1	CFOt/At-1	Prodt/At-1
intercept	-0.039	-0.027	0.020	-0.101
$1/A_{t-1}$	35.127	-2.089	-2.35	-4.83
S_t/A_{t-1}	0.114	1.049	0.030	0.878
$\Delta S_t/A_{t-1}$	0.009	0.179	0.00	-0.12
$\Delta S_{t-1}/A_{t-1}$		-0.123		-0.11
Adj R^2	0.041	0.993	0.035	0.85

*signifikan at level 10%

This table reports the estimated parameters in following regression:

$CFO_t/A_{t-1} = \alpha_0 + \alpha_1 (1/A_{t-1}) + \alpha_2 (S_t/A_{t-1}) + \alpha3 (\Delta S_t / A_{t-1}) + \varepsilon t$

$PROD_t/A_{t-1} = \alpha_0 + \alpha_1 (1/A_{t-1}) + \alpha_2 (\Delta S_t/A_{t-1}) + \alpha3 (\Delta S_t / A_{t-1}) + \alpha4 (\Delta S_{t-1} / A_{t-1})\ \varepsilon t$

Comparison of suspect firm years with non suspect firm-years and the rest of sample

If firm-year that report profit just above zero undertake activities that adversely affect their CFO, then abnormal CFO for these firm-years, should be negative compared to the rest of sample. To test this, we estimate the following regression:

Y = α + β1(Net Income) + β2(Suspect_NI) + ε ……………(4)

The dependent variable, Y, is abnormal CFO and abnormal production cost in period t. Suspect_NI is an indicator variable that is set equal to 1 if firm-years belong to the earnings category just right of zero, and zero otherwise.

Table 4: Comparison suspect firm years with non suspect sample.

	Abnormal CFO	Abnormal Production Costs
Intercept	0,022 (2.614)	-0.002 (-0.200)
Net Income	0,008* (1.061)	-0.269* (-5.518)
Suspect_NI	-0,217* (-5.552)	0.142* (3.246)

The first column in table 4 provides evidence that abnormal CFO is unusually low for suspect firm years, consistent with Roychowdhury's model. When dependent variable is CFO in regression (4), the coefficient on SUSPECT_NI is negative (-0,217) and significant at level 10%. Suspect firm-years have abnormal CFO is lower than non suspect firm.

When Y is abnormal production cost, the coefficient on SUSPECT_NI is positive 0.142. The coefficient indicates that the mean abnormal production cost of suspects firm-years are larger 14.2% of assets than the mean across the rest of sample.

Descriptive cluster analysis

To provide descriptive evidence on systematic pattern in earnings management method across group of countries with similar institutional characteristics, we begin with cluster countries based on institutional characteristics (Leuz, 2003). The first cluster is characterized by large stock markets, low ownership concentration, extensive outsider right, high disclosure, and strong legal enforcement. The second and third cluster show markedly smaller stock markets, higher ownership concentration, weaker investor protection, lower disclosure level, and weaker enforcement, with the distinction that countries in the second cluster have significantly better legal enforcement than countries in the third cluster. Based on institutional characteristics, we refer countries in the first cluster as 'high investor protection economies'. The countries in the second and third cluster

To provide descriptive evidence on the systematic patters of earnings management method across cluster, we use ANOVA analysis to compare aggressiveness of real activity manipulation and accrual manipulation across group of countries.

Table 5 shows the difference of aggressiveness earnings management method across cluster.

Table 5:Pervasiveness of earnings management by cluster

	Cluster 1 (high investor protection)	Cluster 2	Cluster 3 (low investor protection)
Abnormal CFO	-0.0075	0.0005	0.0193
Different between cluster	F: 8.753	Sign: 0.000	
Abnormal Production Cost	0.0015	-0.0003	-0.0757
Different between cluster	F: 69.443	Sign: 0.000	
Abnormal Accrual	-0.1013	-0.0631	-0.0533
Different between cluster	F: 2.795	Sign: 0.061	

Table 5 shows that the differences between cluster's average earnings management are statistically significant. High investor countries (cluster1) exhibit lower level of earnings management with accrual manipulation than low investor protection countries. This finding consistent with leuz (2003) that earnings management is expected to decrease in investor protection because strong protection limits insider's ability to acquire private control benefit, which reduces incentives to mask firm performance. But earnings management with real activity management is higher in economies with strong investor protection. Real activity manipulation can be detected by investigate the pattern of CFO and production cost. Deviation from normal level of CFO and Production cost are termed abnormal CFO and abnormal production cost. The abnormal CFO is lower in economies with high investor protection rather than in low investor protection. Abnormal production cost is higher in economies with high investor protection than in low investor protection.

Suspect firm year more aggressive in real activity manipulation, we conduct sensitivity analysis to compare differences in earnings management activity between clusters for suspect firm year. Thus, our results are sensitive to sample selection.

Table 6: Pervasiveness of real activity manipulation suspect year firm by cluster

Cluster	Abnormal CFO	Abnormal Production Cost
1 (high investor protection)	0.0130	0.0189
2	-0.0255	0.0556
3 (low investor protection)	0.0342	-0.2067
Differences between clusters	2.369	47.419
	(0.096)	(0.000)

Table 6 shows that suspect firm-years in cluster high investor protection exhibit abnormal low CFO and abnormal high production cost comparing to cluster low investor protection. This result is consistent with previous analysis.

In summary, the evidence earnings management with real activity manipulation is higher in economies with high investor protection rather than in economies with low investor protection. Earnings management with accrual manipulation is more aggressive in economies with low investor protection than in economies with high investor protection.

The Role of Investor Protection: multiple regression analysis

The previous analysis shows that pervasiveness of earnings management with real activities manipulation or accrual manipulation is systematically related to a country's institutional characteristics. A key question is which institutional factors are primary determinant of earnings management's method choice. We posit that better investor protection result in less earnings management with accrual manipulation because accrual manipulation is easy to detect and hence lower incentives to conceal firm performance with accrual manipulation. Our multiple regression examines the relation between earnings management's method choice and investor protection.

Table 7: Earnings management's method choice and investor protection

	Abnormal accrual	Abnormal CFO	Abnormal Production Cost
Constant	1.974 (4.023)	0.392 (1.511)	-0.725 (-2.259)
Outside investor right	-0.082* (-3.627)	-0.006 (-0.874)	0.059* (6.709)
Legal enforcement	-0.013 (-1.318)	-0.009* (-2.517)	0.009* (2.191)
Important equity market	0.013* (1.806)	-0.006* (-2.309)	-0.006* (-1.879)
Disclosure index	-0.036* (-4.350)	-0.001* (-0.238)	0.007* (0.044)
R^2			

Our multiple regression results presented at column 1 of Table 7 report regression analysis using abnormal accrual as the dependent variable. Results show that outside investor right, legal enforcement and disclosure index exhibit a significant negative association with abnormal accrual. The higher level of investor protection will reduce aggressiveness earnings management with accrual manipulation. All variables consistent with prediction, with the exception important of equity market variables.

We attempt to provide evidence on hypothesis that investor protection is positively related to earnings management with real activity manipulation. We use abnormal low cash flow from operation and abnormal high production cost as a measure earnings management with real activity manipulation. The results presented in column 2 of table 6 show that investor protection and abnormal low CFO exhibit negative association as predicted by our hypothesis. Results show that legal enforcement, important equity market and disclosure index exhibit a significant negative association with abnormal low CFO. The higher outside investor right, legal enforcement and disclosure index, the lower level abnormal CFO. The result also support that investor protection and abnormal high production cost are positively related. Column 3 of table 6 show that outside investor right, legal enforcement, and disclosure index exhibit a significant positive association with abnormal production cost.

In summary, the multiple regression results are consistent with the hypothesis that investor protection affects earnings management method choice. In economies with high investor protection, it is too costly to manage earnings with accrual manipulation. The cost of detection of accrual manipulation is high because essentially, a manager can borrow earnings from future periods, through the acceleration of revenues or deceleration of expenses, in order to improve current earnings. The cost of detection bears a one-to-one

cost of earnings reduction in the future; future-period earnings will be mechanically lower by the net income that was accelerated to current earnings. The other type of earnings management can occur through the manipulation of real activities, such as providing price discounts to increase sales and cutting discretionary expenditures, such as R&D, to manage earnings. Such actions can increase revenues or net income, but they are also costly. For example, cutting R&D spending to manage earnings may result in the loss of future income related to the forgone R&D opportunities. On the other hand, because the manipulation of real activities is not a GAAP violation, this earnings management tool is expected to have a lower cost of detection than accrual management. So we argue that in economies with high investor protection, manager prefer to use real activity manipulation to mask firm performance. The result of our analysis consistent with our prediction.

Limitation and Conclusion

This paper documents systematic differences in the earnings management method across countries with different level of investor protection. We perform ANOVA and multiple regression analysis to test differences earnings management's method across cluster countries based on institutional characteristics. The analysis suggest that in economies with high investor protection earnings management with accrual manipulation is lower than in economies with low investor protection.

Prior research has provided evidence on managers' incentives for earnings management and earnings management more aggressive in countries with low legal enforcement but there is relatively little evidence on what manager's method to manage earnings in different legal environment. In addition, prior research used accrual manipulation to measure earnings management but actually management have flexibility to manage earnings with accrual manipulation, real activities manipulation or classification

shifting. Earnings management through accrual manipulation is more likely to draw auditor or regulator scrutiny than real decisions about pricing and production. So this paper attempts to provide evidence does investor protection determine manager choice between real activities manipulation versus accrual manipulation when they have the flexibility to engage both. We expect that earnings management through accrual manipulation decreases in legal protection because when investor protection strong, accrual manipulation will decrease because it is easy to detect. But in strong investor protection's countries, earnings management through real activities manipulation more aggressive because real activities manipulation can be subjective, auditor might be limited in their ability to verify the appropriate classification. In countries with weak investor protection, manager have great discretionary to manage earnings with both accrual manipulation and real activity manipulation.

Consistent with the hypothesis, the regression result show that accrual manipulation is negatively associated with quality of outside investor right, legal enforcement, and quality of disclosure. Real activities manipulation is positively association with outside investor right, legal enforcement and quality of disclosure. This finding highlight that level of investor protection determine management's choices on earnings management's method.

The limitation of this study: we are not include abnormal discretionary expenses to measure real activity manipulation because unavailable data. We only measure the pattern of abnormal CFO and abnormal production cost. We argue that pattern abnormal discretionary expenses have been captured at the pattern of abnormal CFO. Reducing discretionary expenses have a positive effect on abnormal CFO in the current period, possibly at risk of lower cash flow in the future.

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THE EFFECT OF MAJORITY SHAREHOLDER OWNERSHIP ON REAL EARNINGS MANAGEMENT: A KOREAN PERSPECTIVE

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Abstract: This study investigates the effect of corporate ownership structure on real earnings management in order to determine whether there is a conflict or alignment of interests of majority and minority shareholders. Although majority shareholders may use the discretion in accounting for their private benefits, they are expected to be more careful to managers' myopic activity, i.e. real earnings management. This is because real earnings management has a more direct effect on not only firm's operating performance but also majority shareholders' own wealth than does accruals-based earnings management. Furthermore, according to prospect theory, majority shareholders may be more sensitive to upward earnings management that results in loss in their future wealth than downward real earnings management. We find that real earnings management significantly decreases with large ownership by majority shareholders only in the upward earnings management bracket. On the contrary, in the downward and ambiguous earnings management brackets real earnings management is not different regardless of the level of majority shareholders' ownership. The result with upward earnings management bracket suggests that majority shareholders with large ownership play a positive role in maintaining firm value, and ultimately for both majority and minority shareholders' wealth. In addition, we verify that even though upward earnings management lowers long-term performance, majority shareholders with large ownership mitigate this negative effect. Our finding supports the convergence-of-interests hypothesis and prospect theory, providing some insights on this controversial issue by using real earnings management instead of accruals-based earnings management.

Keywords: corporate ownership, majority shareholders, real earnings management, convergence-of-interests hypothesis.

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I. INTRODUCTION

This study examines how majority shareholder ownership impacts real earnings management in Korea where majority shareholders heavily influence management decisions.[21] Our major purpose for investigating the effect of ownership structure on real earnings management is to determine whether majority shareholders act in ways detrimental to or in the interests of minority shareholders.[22]

As to the role of majority shareholders, whether the convergence-of-interests or the expropriation-of-the-minority-shareholders hypothesis is correct has been the subject of controversy in East Asian countries. According to the conventional perspective on the agency problem, majority shareholders play an active role in monitoring managers (Jensen and Meckling, 1976). They do this because their wealth is more influenced by the firm's operating results, and they are in an easier position to obtain information about managers' decision as their ownership increases. In contrast, the latter perspective is based on the notion that majority shareholders act in ways detrimental to minority shareholders by transferring the wealth of minority shareholders to themselves (La Porta et al., 1999). This hypothesis posits that if majority shareholders can easily control managers' activities and exploiting the minority shareholders, they will attempt to transfer minority shareholders' wealth to themselves.[23] These arguments are still being debated among researchers interested in corporate governance in East Asia.

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[21] Johnson et al. (2000) argued that managers' business decision is actually affected by majority shareholder in East Asia. Similarly, major agency problem in these countries is not between shareholders and managers but between majority and minority shareholders (Claessens et al. 2000). Korean studies also indicated this problem. For example, Jung et al. (2002) stated that majority shareholders have ownership enough to govern management decision in Korea. An et al. (2002) also showed evidence that majority shareholders in Korea have the right to control management decisions.

[22] Following Article 2 of the Korean Securities and Exchange Act, majority shareholder ownership in this study is computed as the proportion of the total numbers of shares held by the largest shareholder and his/her affiliated persons, affiliated firms, or executives of affiliated firms.

[23] These opposing claims have also been made in the context of Korea. Choi and Kim (2001) found that management tends to manage earnings to a greater extent as majority shareholder ownership decreases. However, Park (2003) showed that majority shareholders tend to transfer the wealth of

Thus, we provide additional evidence to settle this controversy. It is crucial to determine the behavior of majority shareholders with real earnings management in East Asian countries, including Korea, because companies in these countries are not considered to be fully independent of majority shareholders. If majority shareholders serve only their own selfish interests and even exploit minority shareholder's wealth, they should be more regulated. In contrast, if they help increase firm value and eventually the wealth of other investors in the firm, their positive role has to be reassessed. Majority shareholders would be careful in altering actual management decisions because real earnings management changes their own wealth and firm value in the long-run. This behavior would become more pronounced as the proportion of majority shareholders' ownership becomes larger.

This study differs from prior studies in the following aspects. First, this study analyzes the effect of corporate ownership on real earnings management, while most prior studies have examined the effect of corporate ownership structure on accruals-based earnings management through discretionary accruals. Burgstahler and Dichev (1997) suggested that real earnings management is more important than accruals-based earnings management, because the former is characterized by managers' myopic earnings manipulation in actual management decisions. Following Roychowdhury (2006) and Cohen et al. (2008), we used real earnings management to analyze managers' opportunistic behaviors to overcome the limits of accruals-based earnings management. In this study, abnormal cash flow from operation, abnormal production cost, and abnormal discretionary expenses reflect managers' real earnings management. While accruals-based earnings management only results in accruals reversal, real earnings management distorts resource allocation and worsens actual operating performance in the long-run.

minority shareholders to themselves as their ownership increases.

Thus, real earnings management more realistically tests whether the interests of majority and minority shareholders are aligned. Second, unlike previous studies, we examine the relationship between majority shareholders' ownership and real earnings management in various brackets that have different earnings management incentives. Prior studies ignored the effects of different underlying incentives on earnings management (Klassen, 1997; La Porta et al., 1999; Choi and Kim, 2001; Park, 2003). As prospect theory assumes that investors' sensitivities to loss are higher, we expect that majority shareholders' monitoring would be stronger in the upward earnings management incentive bracket.

The results of this study are as follows. First, in the whole sample, we found no systematic association between the proportion of majority shareholder ownership and real earnings management. Second, in the upward earnings management incentive bracket there was a significantly negative relationship between majority shareholders' ownership and real earnings management. In contrast, in the downward and ambiguous earnings management incentive brackets, majority shareholders' ownership was generally not associated with real earnings management. Lastly, while following operating performance declines in the upward real earnings management bracket, majority shareholders with higher ownership attenuate this negative result. These empirical results suggest that the interests of both majority and minority shareholders are aligned because upward real earnings management is curtailed as the proportion of majority shareholders' ownership rises, supporting the convergence-of-interests hypothesis. The results are also consistent with prospect theory in that the behavior of the majority shareholders is asymmetric between loss and profit.

The remainder of this paper is organized as follows. A theoretical background and overview of prior studies are provided in Section II; hypotheses are presented in Section III; research methods and data collection are described in Section IV; and the empirical

results are presented in Section V. Finally, the conclusions and limitations of the study are presented in Section VI.

II. BACKGROUND AND LITERATURE REVIEW

2.1 Corporate Ownership Structure and Earnings Management

Claessens et al. (2000) found that companies in East Asian countries do not have a clear separation between control and management of majority shareholders. In this unclear separation, two hypotheses to explain the agency problem between majority and minority shareholders have been proposed. The first hypothesis is the convergence-of-interests hypothesis, which claims that majority shareholders will not pursue activities that reduce the wealth of a company because they have greater interests as shareholders when the proportion of ownership held by majority shareholders is higher. Therefore, there will be a convergence of the interests of majority and minority shareholders. The second hypothesis is the expropriation-of-the-minority-shareholders hypothesis, which expresses the exact opposite viewpoint. It claims that there is an information asymmetry between majority and minority shareholders, and that a company acts in detriment to the wealth of minority shareholders to maximize that of majority shareholders. Although there are evidences for both hypotheses, neither of these two hypotheses has received unequivocal support.

Examining the convergence-of-interests hypothesis, Watts and Zimmerman (1986) found that owner-management with smaller equity has an incentive to act in opposition to the company's value maximization to pursue private profit. Klassen (1997) found that a higher level of majority shareholder ownership lowers the financial reporting incentive and increases the tax reporting incentive. Therefore, he concluded that profit from property disposition is reduced when majority shareholder ownership increases if a company has a

higher tax rate. In addition, discretionary expenses have a negative relationship to ownership concentration (Warfield et al., 1995). In Korea, Choi and Kim (2001) found that a company with lower majority shareholder ownership also has a larger absolute value of discretionary accruals. Based on this finding, they claimed that management has more incentive for opportunistic earnings management when the investment of majority shareholders is small.

There is also evidence supporting the expropriation-of-the-minority-shareholders hypothesis. La Porta et al. (1999) analyzed the corporate ownership structure of large companies from 27 countries and reported that controlling shareholders act opportunistically against the interests of minority shareholders to increase their own utility as a company's ownership structure becomes more concentrated. In Korea, Park (2003) showed that there is a positive relationship between majority shareholder ownership and discretionary accruals. He concluded that the expropriation-of-the-minority-shareholders hypothesis is supported.

2.2 Real Earnings Management

Schipper (1989) defined earnings management as managers' intentional adjustment to gain private benefit. Accruals-based earnings management involves adjusting net income by changing accounting methods without changing actual operations while real earnings management involves the management of operational activities (Roychowdhury, 2006). Graham et al. (2005) argued that managers prefer real earnings management because it is safer than accruals-based earnings management by not getting as much attention from regulatory bodies and external auditors as accruals-based earnings management. For example, management can influence net income by adjusting research and development (R&D) expenses or advertisement expenses. Moreover, managers can boost sales by pricing down products or selling off securities. In this way,

203

real earnings management directly influences companies' actual operations. Real earnings management undertaken to increase current accounting numbers, however, results in damaging long-term firm value. Therefore, it costs much more compared to accruals-based earnings management.

Most prior studies on earnings management have focused on accruals, while real earnings management has been neglected. Existing studies on real earnings management focus mostly on investment or finance activity rather than operating activity (see, for example, Dechow and Sloan, 1991; Bartov, 1993; Bens et al., 2002; Bushee, 1998). Roychowdhury (2006) suggested estimation models to derive proxies for real earnings management, which include abnormal cash flow from operations (ACFO), abnormal production costs (APC), and abnormal discretionary expenses (ADE). He found evidence that companies manage earnings utilizing ACFO, APC, and ADE to meet earnings benchmark. Cohen et al. (2008) examined whether there was any change in earnings management behavior before and after the Sarbanes-Oxley Act (SOX hereafter). They showed that real earnings management was higher in post-SOX period than pre-SOX period. They argued that companies preferred real earnings management to accruals-based earnings management under the strict accounting regulations of SOX.

2.3 Earnings Management across Incentives' Brackets

Burgstahler and Dichev (1997) examined the distribution of earnings levels and showed that an exceptionally small number of companies was positioned in the section slightly less than zero and an abnormally large number of companies was found in the section slightly more than zero. Based on this result, they concluded that companies manage their earnings to avoid reporting losses.

Earnings management is not always performed to increase profit. Prior studies have shown that not only upward but also downward earnings management is performed to

increase earnings in a later period and smooth income according to the circumstances that a company faces. DeFond and Park (1997) showed that management who tries to report stable income flow reduces (or increases) profit through downward (or upward) earnings management when the current year's income is high (or low).

Healy (1985) found that managers try to lower accounting income if reported earnings exceed a certain threshold at which their bonuses can be paid at the maximum. Managers may also lower reported earnings when it does not reach a minimum threshold to deposit current earnings for future bonuses (Healy 1985). The direction of earnings management may correspond to managers' income smoothing incentives. However, Gaver et al. (1995), re-verifying the results of Healy (1985), reported that companies experience upward earnings management when profit is less than the minimum incentive level.[24]

To summarize prior studies, earnings management incentives move in different directions according to the level of earnings. Frank and Rego (2006) showed that earnings management incentives differ according to the circumstances of the company. They investigated how management uses the valuation allowance of deferred corporate taxes for earnings management. In particular, they divided earnings management incentive into three brackets: (1) profit before earnings management slightly smaller than zero, (2) profit before earnings management much larger than zero, and (3) profit before earnings management much less than zero. They also demonstrated that earnings management moves in different directions according to earnings management incentives.

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[24] Two studies examined situations with low reported earnings: Gaver et al. (1995) reported results identical to incentives for nominal zero earnings, while Healy (1985) supported the big bath argument. The results from prior studies on the two incentives are generally mixed.

III. HYPOTHESES DEVELOPMENT

Earlier studies have shown that majority shareholders sometimes act against the interests of minority shareholders, and that this behavior changes according to the corporate ownership structure. The convergence-of-interests hypothesis claims that majority shareholders will not pursue activities that reduce the value of a company because they have a vested interest as shareholders in its success, even more so as their proportion of ownership increases. However, the expropriation-of-minority-shareholders hypothesis, which emphasizes information asymmetry between majority and minority shareholders, argues that companies tend to act in detriment to the wealth of minority shareholders as the proportion of majority shareholders grows.

These two opposite hypotheses can be applied only to accruals-based earnings management. That is, majority shareholders may use discretion in their accruals to overstate short term performance and deceive minority shareholders with information asymmetry between them. On the other hand, if the proportion of majority shareholders ownership increases, they pay more attention to the effectiveness of the business to improve longer term performance. Klassen (1997) also suggested that the more shares majority shareholders hold, the more interested in cash flows rather than reported income.

However, referring to real earnings management, it is irrational for majority shareholders to allow real activity manipulation to raise current period net income, because it will eventually impair their own wealth as well. After upward real earnings management, majority shareholders may suffer from a bigger loss in their own wealth than minority shareholders. Therefore, we expect that real earnings management will decrease when the proportion of ownership held by majority shareholders is higher. Thus, our first hypothesis, stated in an alternative form, is as follows:

206

Hypothesis 1: *Companies with higher proportions of majority shareholder ownership reduce real earnings management.*

Since Kahneman and Tversky (1979) many researchers have explained investors' behavior with the prospect theory. Shefrin and Statman (1985), for example, found that investors tend to hold the stock when price declines while they sell the stock early when return is positive. They defined this asymmetric phenomenon as a disposition effect and argued that it came from investors' greater tendency to avoid losses than to realize profits. This tendency implies an increase in disutility from experiencing wealth decline is greater than that in utility from earnings profits. This asymmetric phenomenon is commonly described as the prospect theory.

The prospect theory can be applied to majority shareholders' behavior toward real earnings management. Real earnings management can be divided into upward and downward earnings management. Prior studies have reported that upward real earnings management results in downturns in future performance. In contrast, downward real earnings management does not impair long term operating performance and may in fact improve future performance while sacrificing reported earnings in the short-run. Gunny (2005) found that abnormal business decisions have adverse effects on operating performance. Mizik and Jacobson (2007) found that companies using upward real earnings management showed significant decreases in stock price after they raised funds.

Majority shareholders would be more interested in the long-term value of a company since their wealth is more affected by firm value than minority shareholders. Thus, consistent with the prospect theory, majority shareholders with larger ownership would be more sensitive to upward real earnings management resulting in worse operating performance in later periods. On the other hand, although there is an income smoothing incentive that might lead to downward earnings management, the majority shareholders

with larger ownership are expected to be less interested in it. This is because downward real earnings management is likely to result in a greater operating performance in the long-run. We, therefore, hypothesize that avoidance of upward real earnings management will be stronger than that of downward real earnings management when majority shareholders have higher levels of ownership.

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Insert FIGURE 1 about here

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This study utilizes three earnings management incentive brackets (Frank and Rego, 2006), as shown in FIGURE 1: (1) upward earnings management, (2) downward earnings management, and (3) ambiguous earnings management. Following Burgstahler and Dichev (1997) and Phillips et al. (2003), we first assume that companies with reported earnings slightly greater than zero have a great incentive toward upward adjustment to avoid a deficit, and therefore classify these companies in the upward earnings management bracket. Second, companies with earnings much greater than zero have a motivation for income smoothing, and are therefore classified as being in the downward earnings management bracket. Third, companies with earnings much less than zero might be tempted not only to implement a big bath, which reserves earnings to improve future, but also to reduce loss. Therefore, these companies are classified as being in the ambiguous earnings management bracket, with mixed upward and downward earnings management incentives. Among these three brackets, in the upward earnings management incentive bracket majority shareholders monitor managers' opportunistic activities more closely to protect their own wealth as the proportion of ownership rises.

Hypothesis 2a: *In the upward earnings management incentive bracket, real earnings management is smaller when the majority shareholder*

> *ownership is high compared to low majority shareholder ownership.*

Hypothesis 2b: *In the downward earnings management incentive bracket, real earnings management is indifferent between high majority shareholder ownership and low majority shareholder ownership.*

Hypothesis 2c: *In the ambiguous earnings management incentive bracket, real earnings management is indifferent between high majority shareholder ownership and low majority shareholder ownership.*

IV. RESEARCH DESIGN AND DATA COLLECTION

4.1 Real Earnings Management Estimation Model

Real earnings management can be divided into three categories: (1) sales, (2) production, and (3) expenses. First, from a sales perspective, management can execute abnormal promotional events and discounts and can ease credit policy to increase the accruals-based accounting profit of the current period. However, although offering discounts will increase the accounting profit of the current period, it may damage long-term brand power and increase bad debt in the future. Second, from a production perspective, management can increase production to lower fixed overhead costs per unit, which in turn will decrease the cost of goods sold. Although this can increase accruals-based accounting earnings in the short term, the value of the company will decrease due to inventory maintenance costs and deterioration. Third, discretionary expenses are directly connected to profit and loss. Therefore, management can reduce the current period's advertising expenses, R&D expenses, education and training expenses, and fringe benefit. Although this might improve the current term's profit, it will reduce long-term brand awareness and quality of product and result in the drain of talents, thereby decreasing the quality of employees.

These changes in management activity can be measured by three variables: (1) cash flow from operations (CFO), (2) production costs (PC), and (3) discretionary

expenses (DE). CFO is affected by changes in all three categories mentioned above.

Discounts and increased credit sales will reduce cash flow compared to sales with regular

prices and credit policies. Moreover, increased production will increase labor costs,

material costs, and cash expenses, which in turn will reduce cash flow from operations.

Although cost reduction reduces cash expenses, which is expected to increase cash flow,

cost reductions in sales management or research and development can also reduce sales

in the current term. Therefore, increased cash flow from reduced costs leads to decreased

cash flow due to a reduction in sales. From a sales and production points of view, CFO will

be reduced per regular sales. From a cost reduction standpoint, CFO will not increase or

will increase only slightly. Therefore, even though cash flow could increase or decrease, it

is rational to expect a general decrease in cash flow because the effect from sales and

production is great.

PC can be divided into two categories: cost of goods sold (COGS) and inventory.

COGS will be reduced because of reduced fixed costs. However, it can increase as sales

decrease. Moreover, management can increase production until the cost of inventory does

not exceed the amount of decreased COGS if attempting earnings management. In

addition, DE will decrease as research and development expenses and advertisement

expenses decrease.

We adopted the Roychowdhury (2006) model to estimate real earnings

management: abnormal cash flow from operations (ACFO), abnormal production costs

(APC), and abnormal discretionary expenses (ADE). The abnormal portion of each

variable is calculated by subtracting the estimated value from the actual value. Equations

(1) to (3) are used as estimation models, and were introduced by Roychowdhury (2006)

based on Dechow et al. (1998). Moreover, each model was estimated through cross-

sectional analysis according to industry and year to reflect the characteristics of each industry and year.

$$\frac{CFO_t}{A_{t-1}} = \alpha_0 + \beta_1 \cdot \frac{1}{A_{t-1}} + \beta_2 \cdot \frac{S_t}{A_{t-1}} + \beta_3 \cdot \frac{\Delta S_t}{A_{t-1}} + \varepsilon_t \tag{1}$$

$$\frac{PC_t}{A_{t-1}} = \alpha_0 + \beta_1 \cdot \frac{1}{A_{t-1}} + \beta_2 \cdot \frac{S_t}{A_{t-1}} + \beta_3 \cdot \frac{\Delta S_t}{A_{t-1}} + \beta_4 \cdot \frac{\Delta S_{t-1}}{A_{t-1}} + \varepsilon_t \tag{2}$$

$$\frac{DE_t}{A_{t-1}} = \alpha_0 + \beta_1 \cdot \frac{1}{A_{t-1}} + \beta_2 \cdot \frac{S_{t-1}}{A_{t-1}} + \varepsilon_t \tag{3}$$

where CFO = Cash flow from operations;
DE = R&D + Advertising + Selling, general, and administrative (SG & A) expenses;
PC = Cost of goods sold + Change in inventory;
A = Total assets; and
S = Sales.

In the estimation model, upward earnings management will result in decreased CFO, increased PC, and decreased DE. In order to align the direction of metrics of real activity manipulation with the same direction in equations (4)-(6), we multiply ACFO and ADE by negative one. After this operational manipulation, all the metrics representing real earnings management, namely ACFO, APC, and ADE, are positively related with upward real earnings management. In addition, to capture the effects of real earnings management for all three variables in a single comprehensive measure, we compute a single variable by combining the three individual real earnings management variables. Specifically, we compute REM as the sum of the individual variables, ACFO, APC, and ADE (Cohen and Zarowin, 2008; Cohen et al., 2008).

$$ACFO_t = (-1) \times \text{Residual from the estimation model of equation (1)} \tag{4}$$
$$APC_t = \text{Residual from the estimation model of equation (2)} \tag{5}$$
$$ADE_t = (-1) \times \text{Residual from the estimation model of equation (3)} \tag{6}$$
$$REM_t = ACFO_t + APC_t + ADE_t \tag{7}$$

4.2 Classification of earnings management

Upward earnings management can worsen the future performance of a company, while downward earnings management can improve it. Burgstahler and Dichev (1997), who reported an extraordinarily high frequency of companies with earnings slightly greater than zero, interpreted this phenomenon as a result of upward earnings management in companies trying to avoid reporting losses. This finding may reflect investors' tendency of being more sensitive to bad news as suggested in Shefrin and Statman (1985).

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Insert FIGURE 2 about here
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We measured earnings level by dividing the net income (NI) of a total of 6,440 firm-year samples by total assets at the beginning of the period from 1991 to 2007 and then classified these observations by their earnings levels in terms of increments of 0.005 to derive their distribution. As shown in Figure 2, a great asymmetry exists between the companies with earnings slightly greater than zero and those with earnings slightly below zero. There were 69 companies in the earnings bracket of -0.01 to -0.005 and 74 in the bracket of -0.005 to zero, which is considerably lower than the number at the slightly higher earnings level than zero. Specifically, 462 companies were in the bracket of 0 to 0.005, and 485 fell into the bracket of 0.005 to 0.01. This indicates that the two groups of companies divided using the criterion of zero earnings level have considerable differences in the number of group members. Thus, consistent with Burgstahler and Dichev (1997) and Phillips et al. (2003), this supports the idea that companies with NI slightly less than zero report a surplus by using upward earnings management.

We assigned the companies that use upward earnings management to avoid reporting loss to bracket EM1, where the value of NI divided by total assets at the beginning of the current period is slightly greater than zero. More specifically, we defined a

company as an upward earnings management company when it fell into the range of 0 to 0.015.[25]

Healy (1985) demonstrated that downward earnings management occurs when the reported earnings exceed managers' upper incentive boundaries. DeFond and Park (1997) showed that a company implements appropriation of negative discretionary accruals when current performance is strong and appropriation of positive discretionary accruals when performance is weak. Thus, we defined companies with downward earnings management incentives as those with high performance. The bracket EM2, where the value of NI divided by total assets at the beginning of the current period is larger than zero, was populated with companies with an incentive for downward earnings management. Specifically, the brackets with a value of NI divided by total assets at the beginning of the current period over 0.075 were classified as downward earnings management companies.

We examined the earnings management incentive of the companies with earnings much less than zero. The direction of earnings management in these companies is not clear due to the two conflicting incentives, i.e., a big bath incentive that assumes maximum expenditure in the current period with the purpose of improving future performance, and another incentive to minimize the deficit. Healy (1985) posited that downward earnings management occurs when the earnings are so low that they do not reach the lower

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[25] Post- and pre-managed earnings could be criteria for classifying sample firms with upward earnings management incentives to avoid losses. Theoretically, it seems proper to divide the earnings management incentives according to pre-managed earnings level. However, calculating pre-managed earnings is problematic in that measurement error is a possibility, as is inaccuracy of the computation of the amount of earnings management. Moreover, when variables containing measurement errors are used as independent and dependent variables, results can indicate earnings management even when there is none. In particular, when measurement error is present in independent variables, bias and inconsistency are highly likely to occur in the coefficient estimation procedure (Maddala 2001). Hence, a research model using this type of estimation method for pre-managed earnings is not appropriate. Therefore, following Phillips et al. (2003) and Roychowdhury (2006) we used post-managed earnings as the criterion to classify those companies with net profits slightly over zero as upward earnings management companies in this study.

boundary of bonus incentives. However, Gaver et al. (1995), which reexamined Healy (1985), found that accruals are adjusted such that earnings are increased. Thus, we decided not to predict the direction of earnings management in EM3, where the earnings are much less than zero. This implies that in this group, future corporate performance is unclear. Specifically, we defined companies with an ambiguous direction of earnings management as those where the value of NI divided by the total assets at the beginning of the current period was less than -0.075. TABLE 1 shows the numbers of company-years assigned to each bracket are 2,952 (EM1 1,337; EM2 1,205; EM3 410).[26]

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Insert TABLE 1 about here
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4.3 Empirical model

We used model (8) to test hypothesis 1. The dependent variable of equation (8), which represents REM (aggregate metric of the three real earnings management categories), takes into account ACFO (abnormal cash flow from operations), APC (abnormal production costs), and ADE (abnormal discretionary expenses). In this case, dependent variables that represent the real earnings management of equation (8) are the residuals that cannot be explained by the estimation model of equations (1)-(3) and the sum of the three residuals like equation (4)-(7).

A main explanatory variable is OWNH in these equations. OWNH is set to 1 if the proportion of majority shareholders' ownership exceeds the median value in each year, 0 otherwise. That is, OWNH represents relatively a higher majority shareholders ownership.

$$Y_t = \alpha_0 + \beta_1 \cdot OWNH_t + \beta_2 \cdot SIZE_{t-1} + \beta_3 \cdot MTB_{t-1} + \beta_4 \cdot NI_t + \varepsilon_t \qquad (8)$$

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[26] We used different definitions (for example, 0.01 for EM1 or 0.065 for EM2 or -0.065 for EM3) of each incentive bracket for robustness check. The empirical results, however, are qualitatively the same.

$$Y_t = \alpha_0 + \beta_1 \cdot EM1_t + \beta_2 \cdot (EM1 \times OWNH)_t + \beta_3 \cdot EM2_t +$$
$$\beta_4 \cdot (EM2 \times OWNH)_t + \beta_5 \cdot EM3_t + \beta_6 \cdot (EM3 \times OWNH)_t + \qquad (9)$$
$$\beta_7 \cdot SIZE_{t-1} + \beta_8 \cdot MTB_{t-1} + \beta_9 \cdot NI_t + \varepsilon_t$$

where Y= REM, ACFO, APC, and ADE;
  REM= ACFO+ ADE+ APC;
  $ACFO$= (-1)×Residual from the estimation model of equation (1);
  APC= Residual from the estimation model of equation (2);
  ADE= (-1)×Residual from the estimation model of equation (3);
  $EM1$ = 1 in companies with NI slightly greater than 0 (0≤NI≤0.015), 0 otherwise;
  $EM2$ = 1 in companies with NI much greater than 0 (0.075≤NI), 0 otherwise;
  $EM3$ = 1 in companies with NI much less than 0 (NI≤-0.075), 0 otherwise;
  $OWNH$= 1 if the proportion of majority shareholders' ownership is higher than median value in each year, 0 otherwise;
  $SIZE$= Natural log of total assets;
  MTB= Market value of equity / book value of equity; and
  NI= Net income / beginning total assets.

In hypothesis 2, to compare and analyze the earnings management behavior of companies under different earnings management incentives brackets, we used equation (9). The dependent variables in estimation model (9) are identical to those in equation (8) used to test hypothesis 1. The independent variables of interest are EM1, EM2, EM3, an interaction term between each variable and OWNH, a dummy variable that indicates whether the majority shareholders' ownership is high. EM1 was used to test hypothesis 2a with a sample of companies with earnings slightly greater than zero, EM2 to test hypothesis 2b with a sample of companies with earnings much greater than zero, and EM3 to test hypothesis 2c with a sample of companies with earnings much less than zero. The dummy variable, OWNH, takes a value of one if the majority shareholders' ownership is higher than the median, and a value of zero otherwise.

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Insert TABLE 2 about here

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The expected signs of each variable of interest are summarized in TABLE 2. First, the companies with high majority shareholders' ownership tend to decrease real earnings management. OWNH, the variable of interest in hypothesis 1, is therefore expected to show significantly negative values. Second, the EM1 bracket containing companies with earnings slightly greater than zero is suspected to contain companies with upward earnings management. However, real earnings management incurs the sacrifice of the future value of the company, i.e., business myopia. Thus, while companies with low majority shareholders' ownership will perform upward real earnings management, those with a high proportion of majority shareholders will significantly control upward earnings management. As a result, companies with a low proportion of majority shareholders will have high Y (REM, ACFO, APC, and ADE), while those with high majority shareholders' ownership will have a smaller Y, according to the convergence-of-interests hypothesis. In a regression equation, the EM1 variable was positively correlated with Y, but the EM1×OWNH variable was significantly negatively correlated.

Third, the EM2 bracket containing companies with earnings much greater than zero is expected to practice downward earnings management. Their future corporate performance is expected to improve due to downward real earnings management, and it is therefore unlikely that majority shareholder monitor managers' myopic real earnings management. As a result, real earnings management will be done in such a way as to decrease earnings, regardless of whether majority shareholders' ownership is high or low. Thus, the EM2 variable is expected to show a negative correlation with the dependent variable and EM2×OWNH is predicted to be insignificant. That means real earnings management is not expected to differ depending on the level of ownership.

216

In the EM3 bracket containing companies with earnings much less than zero, however, it is difficult to predict the direction of real earnings management beforehand, regardless of the proportion of majority shareholders' ownership, because the impacts of upward earnings management for decreasing deficits and downward earnings management for the big bath both apply. Thus, it is expected that both the EM3 and EM3×OWNH variables will not have significant relationships with proxies for real earnings management (i.e., REM, ACFO, APC, and ADE).

As control variables, we first added the natural log of assets (SIZE) at the beginning of the period, considering that firm size has an impact on earnings management according to the political cost hypothesis, which states that a company tries to reduce earnings as it becomes bigger (Jones, 1991). Second, we included the market-to-book ratio (MTB), which accounts for growth opportunities in the market. We expect that as a company has more opportunities for growth, there is a downward earnings management incentive (Roychowdhury, 2006). Third, Dechow et al. (1995) and Guay et al. (1996) pointed out that earnings management incentive is related to firm performance. Hence, net income (NI) was included to control for firm performance.

4.4 Data Collection

The sample was selected from companies listed on the Korea Stock Exchange as of December 31, 2007 that satisfied the following criteria: (1) companies (except financial companies) listed on the Korea Stock Exchange, with their accounts closing in December; (2) companies with financial statements available for extraction using the KIS-Value of Korea Investors Services; (3) companies with information available about majority shareholder ownership using TS2000 of the Korea Listed Companies Association.

We used 17 years of data (1991 to 2007) from 7,358 companies that satisfied the above conditions. Samples were classified into 13 groups according to industry (SIC code)

217

to estimate real earnings management. To eliminate bias, 918 samples that were in an industry-year group with less than 30 samples were excluded from the sample pool. Furthermore, to eliminate the effect of outlier bias, the top and bottom 1% of independent and dependent variables were winsorized. A total of 6,440 firm-year samples were used for the analyses.

TABLE 3 shows the majority shareholder ownership of the companies. The majority shareholders' ownership of all companies was about 30%. It was about 17% in the lower-level group, and 43% in the higher-level group. When we compared the majority shareholders' ownership of companies according to earnings management brackets (EM1, EM2, and EM3), we found that it was almost the same for EM1 and EM3 but relatively larger in EM2.

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Insert TABLE 3 about here
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V. EMPIRICAL RESULTS

5.1 Descriptive statistics

The descriptive statistics of the variables used in the analyses are presented in TABLE 4. We compared the lower ownership group with the higher ownership group for all samples and for each earnings management bracket (EM1, EM2, and EM3).

First, we compared the difference between earnings management brackets. Abnormal cash flow from operations (ACFO), abnormal production costs (APC), and abnormal discretionary expenses (ADE) were relatively small in EM1 and EM3, but large in EM2 compared to the full sample. This difference implies upward earnings management in EM1 and EM3, and downward earnings management in EM2.

Second, we compared all the variables between higher and lower majority shareholder ownership groups in each earnings management bracket. In the whole sample and the EM1 bracket, the REM of high majority shareholder ownership was lower. However, in the EM2 and EM3 brackets, there was no difference between high and low majority shareholder ownership. The results with ACFO, APC and ADE were almost identical to those obtained using REM.

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TABLE 5 shows the correlations between variables. OWNH had significantly negative relationships with REM and ACFO while it had negative but insignificant relationships with APC and ADE. This result is consistent with the idea that when the majority shareholders' ownership is higher, a company generally reduces real earnings management. Next, we use multivariate analyses to examine the effect of majority shareholder ownership on real earnings management according to earnings management incentive brackets.

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Insert TABLE 5 about here

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5.2 Multivariate results

5.2.1 Test of hypothesis 1

TABLE 6 shows whether majority shareholder ownership is associated with real earnings management. A negative (positive) OWNH coefficient implies that a company avoids (conduct) real earnings management when majority shareholder ownership level is high. The result shows that OWNH was significantly negatively associated only with ACFO (at the one percent level). However, we were not able to find evidence of monitoring by majority shareholder ownership with REM, APC, and ADE. These results generally

219

suggest that there is no systematic relationship between the ownership and real earnings management.

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Insert TABLE 6 about here

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SIZE, MTB, and NI were significantly negative in all models, which is consistent with the expectations discussed earlier.

5.2.2 Test of Hypothesis 2

When we tested hypothesis 1, we found no systematic relationship between the majority shareholders' ownership and real earnings management. However, majority shareholders have differential incentives in monitoring real earnings management if their sensitivity to real earnings management related to future performance is different as the prospect theory assumed. That is, monitoring by majority shareholders may only be effective in the upward earnings management bracket since it causes low operating performance in the future unlike downward real earnings management. Thus, to test hypothesis 2, we investigated the effects of the majority shareholders' ownership on real earnings management according to earnings management incentives. TABLE 7 shows the results of the test of hypothesis 2, and confirms that the results can differ according to their incentives.

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Hypothesis 2a refers to EM1, which includes companies with upward earnings management incentive. All the coefficients of EM1 were significantly positive, and EM1×OWNH was significantly negative correlated with REM. This result was consistent across the ACFO, APC, and ADE models. Positive sign of EM1 indicates that these

<div align="center">220</div>

companies practice upward real earnings management to avoid deficits. In addition, negative sign of EM1×OWNH suggests self-control of real earnings management when the majority shareholders' ownership is high. In other words, majority shareholders resist making a decision that will decrease the company's long-term value. This result supports the convergence-of-interests hypothesis i.e. the interests of the majority shareholders and those of the minority shareholders are convergent (Jensen and Meckling, 1976; Klassen, 1997).

Hypothesis 2b refers to EM2, which includes companies with downward earnings management incentive. All the coefficients of EM2 were significantly negative, but none of the EM2×OWNH variables was significantly correlated with REM. This implies that downward real earnings management occurs regardless of whether the majority shareholders' ownership is high or not. We interpret this result as evidence that majority shareholders do not feel the need to block downward real earnings management because it does not damage long-term operating performance. When compared to upward real earnings management, this result is congruent with the prospect theory illustrating that investors including majority shareholders are more interested in evading loss than in pursuing profit.

Hypothesis 2c refers to EM3, which contains companies without obvious earnings management incentive. The signs of EM3 in TABLE 7 are not consistent across models, and most of them are not significant. Furthermore, none of the EM3×OWNH variables was significant. This result indicates that companies with large losses do not conduct real earnings management consistently, and the monitoring for real earnings management of majority shareholders is not apparent regardless of their ownership level.

The control variable results are similar to those obtained when testing hypothesis 1; negative signs in all models. That is, real earnings management decreases when firms are larger, growth opportunities are greater, and operating performance is better.

5.3 Additional analysis

The aim of this study was to examine the effect of majority shareholder ownership on real earnings management. We classified the types of earnings management into separate brackets and determined that upward earnings management incentives shrink when majority shareholder ownership was high. This result suggests that the higher the proportion of majority shareholders the more they are interested in a firm's long-term performance.

Furthermore, we performed an additional analysis to assess the impact of the proportion of majority shareholders on a long-term performance using the accumulated ROA from year 1 to year 5, as shown in TABLE 8. Since real earnings management has an impact on long-term performance, we expect to see a discrepancy in firm's performance between high and low majority shareholder ownership groups.

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Insert TABLE 8 about here
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TABLE 8 shows the differential impact on the firm's future performance in each earnings management bracket according to majority shareholder ownership. First, EM1 is significantly negative across all years (i.e., year 1 through 5), indicating that earnings management for loss aversion results in negative future ROA. On the other hand, EM1×OWNH is significantly positive from the year 3 through year 5. This result implies that a higher ownership of majority shareholders plays a significant role in monitoring

222

management not to impair long term operating performance although upward earnings management incentives present. Second, in the bracket of EM2 reflecting downward real earnings management, EM2 are significantly positive while EM2×OWNH are not significant in all period. This result suggests majority shareholders with higher ownership are not interested in as much downward as upward real earnings management. This may be because downward real earnings management in fact improves future operating performance. Third, EM3 are significantly negative and EM3×OWNH are significantly positive across all time periods. This result also suggests that majority shareholders with higher ownership keep management from acting detrimental to future performance. The results together imply that majority shareholders with higher ownership effectively control their managers not to implement myopic management decision that is harmful to future performance, confirming the hypothesis of convergence-of-interests between majority and minority shareholders. In particular, majority shareholders' asymmetric role across different earnings management incentive brackets may come from their loss aversion and is consistent with the prospect theory.

VI. CONCLUSIONS AND LIMITATIONS

To examine the convergence-of-interests or the expropriation-of-minority-shareholder hypotheses, this study adopted real earnings management instead of prior studies' accruals-based earnings management. Although majority shareholders allow accruals-based earnings management even with greater ownership, they may be more careful to real earnings management. It is because real earnings management has more direct influence on firm's actual operating performance. Thus, conclusions just with accruals-based earnings management may be so weak that we utilize real earnings management to test this controversial issue.

Moreover, based on prospect theory, we analyzed the differential effect of majority shareholder ownership on real earnings management according to earnings management incentives brackets. Prospect theory argued that investors are more interested in avoiding loss than pursuing profit. Consistent with the theory, majority shareholders are expected to be more reluctant to upward real earnings management.

We first found that, in the whole sample, there was no difference in real earnings management across different levels of majority shareholder ownership. Second, only in the bracket where earnings are suspected to be upwardly managed, real earnings management varied depending on equity ownership by majority shareholders. While companies with low majority shareholder ownership practice upward real earnings management to meet earnings benchmarks, majority shareholders with high levels of ownership prevent their companies from real earnings management. On the other hand, there was no difference in earnings management in the downward and ambiguous earnings management brackets across different levels of majority shareholder ownership. Third, we analyzed whether future performance with higher majority shareholder ownership is better or not. We found that cumulative performance (CAROA) in 3, 4, and 5 years is greater with high majority shareholder ownership in upward earnings management incentive bracket.

The results of this study suggest that the higher the proportion of majority shareholders is, the more they avoid upward real earnings management that may damage not only firm's operating performance but also their own wealth. This implies that majority shareholders tend to make less myopic decisions as they have more shares in their companies, which supports the convergence-of-interests hypothesis, i.e. the interests of the majority shareholders are aligned with those of the minority shareholders. Our finding is also consistent with the prospect theory in that the behavior of majority shareholders

224

with high levels of ownership is asymmetric between loss and profit. They are more interested in monitoring managers' upward real earnings management causing loss than downward real earnings management related to profit.

Our study defined earnings management incentive bracket only based on earnings level. However, it is known that managers have incentives to manage earnings under various corporate events such as seasoned equity offerings, executive turnover, newly introduced accounting regulation, and so on. If future studies investigate the effect of majority shareholders on real earnings management in these various incentives, their role to reduce agency cost will be better clarified.

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FIGURE 1
Classification of Brackets for Hypothesis 2
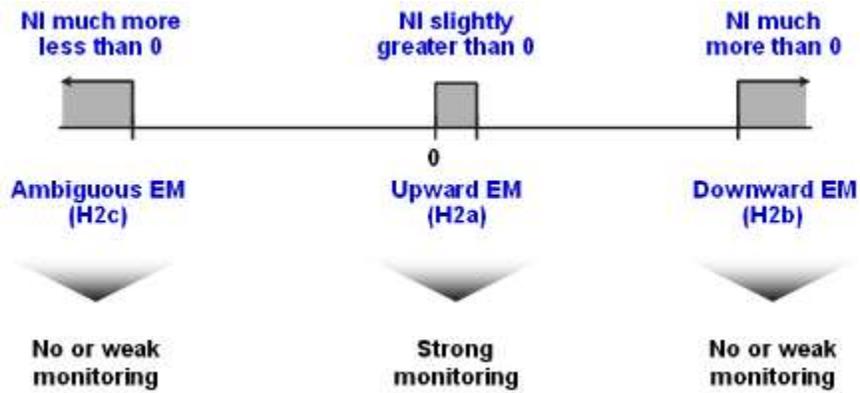
FIGURE 2
Distribution of Net Income
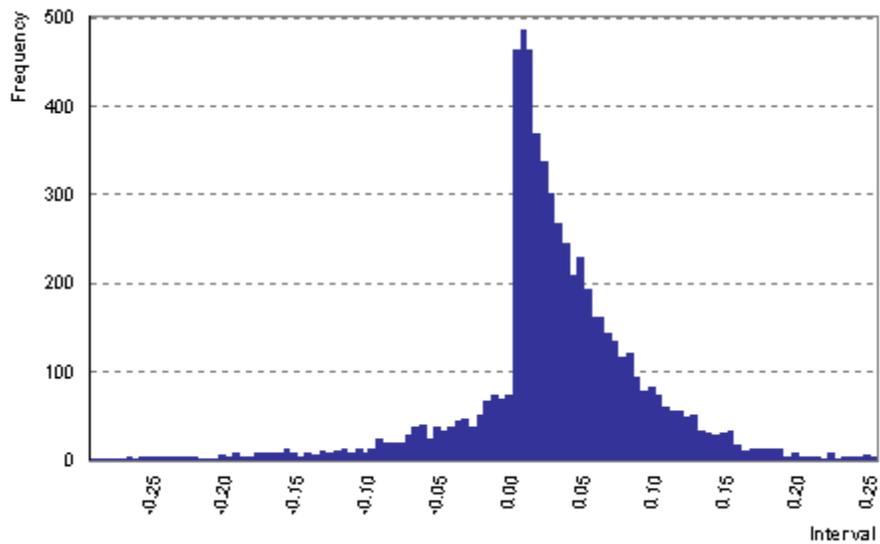
TABLE 1
Brackets of Earnings Management Incentives

Bracket		No. of companies
$EM1$	$0 \leq NI \leq 0.015$	1,337
$EM2$	$0.075 \leq NI$	1,205
$EM3$	$NI \leq -0.075$	410

Notes:

$EM1 =$ Companies with NI slightly greater than 0;

$EM2 =$ Companies with NI much more than 0;

$EM3 =$ Companies with NI much less than 0; and

$NI =$ Net income / beginning total assets.

TABLE 2
Predicted Signs of Variables of Interest

Hypothesis	Direction of EM	Variables	*REM*	*ACFO*	*APC*	*ADE*
1	N/A	*OWNH*	−	−	−	−
2a (NI>0)	(+) Upward Incentive	*EM1*	+	+	+	+
		EM1×OWNH	−	−	−	−
2b (NI>>0)	(−) Downward incentive	*EM2*	−	−	−	−
		EM2×OWNH	− /?	− /?	− /?	− /?
2c (NI<<0)	(?) Ambiguous Incentive	*EM3*	?	?	?	?
		EM3×OWNH	− /?	− /?	− /?	− /?

Notes:

*EM*1 = Companies with *NI* slightly greater than 0;

*EM*2 = Companies with *NI* much more than 0;

*EM*3 = Companies with *NI* much less than 0;

NI = Net income / beginning total assets;

OWNH = 1 if the proportion of majority shareholders' ownership exceeds median value in each year, 0 otherwise;

REM = *ACFO* + *APC* + *ADE*;

ACFO = Abnormal cash flow from operations;

APC = Abnormal production costs; and

ADE = Abnormal discretionary expenses.

TABLE 3
Majority Shareholders Ownership (%) in Each Bracket

Classification		Full sample		Low ownership by majority shareholders (OWNL)		High ownership by majority shareholders (OWNH)	
		Mean	Median	Mean	Median	Mean	Median
Total		30.0	28.7	16.9	17.5	43.1	40.9
*EM*1	0≤NI≤0.015	26.2	24.2	15.6	15.7	40.8	37.3
*EM*2	0.075≤NI	33.8	33.0	17.9	18.8	45.4	43.7
*EM*3	NI≤-0.075	24.1	20.9	14.5	14.3	42.6	40.0

Notes:

OWNH = Companies where majority shareholders hold more than the median value.

OWNL = Companies where majority shareholders hold less than the median value.

*EM*1 = Companies with NI slightly greater than 0;

*EM*2 = Companies with NI much more than 0;

*EM*3 = Companies with NI much less than 0; and

NI = Net income / beginning total assets.

TABLE 4
Descriptive Statistics

Variable	Full sample					Low ownership by majority shareholders (OWNL)					High ownership by majority shareholders (OWNH)					t-stat
	Mean	Median	STD	Min	Max	Mean	Median	STD	Min	Max	Mean	Median	STD	Min	Max	
Full sample																
REM_t	0.004	0.022	0.205	-0.713	0.468	0.012	0.027	0.203	-0.713	0.468	-0.005	0.016	0.207	-0.713	0.468	-3.28***
$ACFO_t$	0.000	-0.001	0.084	-0.236	0.245	0.005	0.003	0.085	-0.236	0.245	-0.005	-0.004	0.083	-0.236	0.245	-5.05***
APC_t	0.001	0.012	0.116	-0.402	0.255	0.003	0.013	0.114	-0.402	0.255	0.000	0.012	0.117	-0.402	0.255	-1.14
ADE_t	0.002	0.010	0.065	-0.286	0.131	0.003	0.009	0.062	-0.286	0.131	0.001	0.010	0.067	-0.286	0.131	-1.30
$SIZE_{t-1}$	19.069	18.835	1.461	16.526	23.306	19.229	18.969	1.567	16.526	23.306	18.909	18.705	1.328	16.526	23.306	-8.82***
MTB_{t-1}	0.989	0.763	0.879	-0.050	5.528	1.028	0.805	0.897	-0.050	5.528	0.949	0.728	0.858	-0.050	5.528	-3.62***
NI_t	0.027	0.025	0.076	-0.304	0.259	0.018	0.019	0.082	-0.304	0.259	0.037	0.032	0.069	-0.304	0.259	10.15***
Upward earnings management bracket: EM1 (0≤NI≤0.015)																
REM_t	0.041	0.048	0.159	-0.713	0.468	0.050	0.051	0.146	-0.589	0.468	0.028	0.039	0.175	-0.713	0.468	-2.41**
$ACFO_t$	0.012	0.010	0.073	-0.236	0.245	0.015	0.011	0.071	-0.234	0.245	0.009	0.009	0.076	-0.236	0.245	-1.60
APC_t	0.019	0.024	0.093	-0.388	0.255	0.023	0.028	0.086	-0.380	0.255	0.013	0.017	0.102	-0.388	0.255	-1.71*
ADE_t	0.010	0.011	0.050	-0.286	0.131	0.012	0.012	0.042	-0.247	0.131	0.006	0.010	0.060	-0.286	0.131	-1.89*
$SIZE_{t-1}$	19.361	19.131	1.463	16.526	23.306	19.594	19.432	1.553	16.526	23.306	19.035	18.874	1.260	16.526	23.217	-7.26***
MTB_{t-1}	0.850	0.706	0.653	-0.050	5.528	0.873	0.714	0.657	-0.050	5.528	0.817	0.687	0.647	-0.050	5.528	-1.55
NI_t	0.008	0.008	0.004	0.000	0.015	0.008	0.008	0.004	0.000	0.015	0.008	0.008	0.004	0.000	0.015	0.00
Downward earnings management bracket: EM2 (0.075≤NI)																
REM_t	-0.108	-0.076	0.249	-0.713	0.468	-0.109	-0.088	0.261	-0.713	0.468	-0.107	-0.072	0.240	-0.713	0.468	0.15
$ACFO_t$	-0.043	-0.039	0.095	-0.236	0.245	-0.043	-0.039	0.100	-0.236	0.245	-0.042	-0.039	0.092	-0.236	0.245	0.25
APC_t	-0.052	-0.030	0.139	-0.402	0.255	-0.054	-0.031	0.147	-0.402	0.255	-0.051	-0.030	0.134	-0.402	0.255	0.32
ADE_t	-0.012	0.005	0.083	-0.286	0.131	-0.011	0.005	0.084	-0.286	0.131	-0.013	0.006	0.082	-0.286	0.131	-0.27
$SIZE_{t-1}$	19.098	18.750	1.533	16.526	23.306	19.437	19.108	1.746	16.526	23.306	18.851	18.591	1.304	16.526	23.274	-6.38***
MTB_{t-1}	1.222	0.951	1.033	-0.050	5.528	1.307	1.020	1.081	-0.050	5.528	1.160	0.888	0.994	-0.050	5.528	-2.42**
NI_t	0.124	0.108	0.048	0.075	0.259	0.124	0.108	0.049	0.075	0.259	0.124	0.108	0.047	0.075	0.259	0.03

TABLE 4
Descriptive Statistics (Continued)

Variable	Full sample					Low ownership by majority shareholders (OWNL)					High ownership by majority shareholders (OWNH)					t-stat
	Mean	Median	STD	Min	Max	Mean	Median	STD	Min	Max	Mean	Median	STD	Min	Max	
Ambiguous earnings management bracket: EM3 (NI≤-0.075)																
REM_t	0.116	0.115	0.173	-0.572	0.468	0.122	0.119	0.179	-0.572	0.468	0.106	0.100	0.161	-0.329	0.468	-0.88
$ACFO_t$	0.055	0.046	0.090	-0.209	0.245	0.062	0.055	0.095	-0.209	0.245	0.042	0.027	0.080	-0.194	0.245	-2.32**
APC_t	0.046	0.047	0.103	-0.402	0.255	0.043	0.042	0.102	-0.402	0.255	0.052	0.054	0.103	-0.241	0.255	0.87
ADE_t	0.010	0.013	0.048	-0.233	0.131	0.009	0.011	0.048	-0.233	0.131	0.012	0.014	0.048	-0.193	0.123	0.50
$SIZE_{t-1}$	18.445	18.232	1.337	16.526	23.306	18.452	18.214	1.374	16.526	23.306	18.432	18.266	1.269	16.526	22.106	-0.14
MTB_{t-1}	1.138	0.684	1.338	-0.050	5.528	1.197	0.758	1.333	-0.050	5.528	1.024	0.540	1.345	-0.050	5.528	-1.24
NI_t	-0.170	-0.149	0.080	-0.304	-0.075	-0.182	-0.164	0.082	-0.304	-0.075	-0.149	-0.125	0.070	-0.304	-0.075	4.19***

Notes: *, **, *** represent significances at the 10, 5, and 1 percent levels, respectively.

$\quad$ OWNH = 1 if the proportion of majority shareholders' ownership is higher than median value in each year, 0 otherwise;

$\quad$ OWNL = 1 if the proportion of majority shareholders' ownership is lower than median value in each year, 0 otherwise;

$\quad$ EM1 = 1 in companies with NI slightly greater than 0 (0≤NI≤0.015), 0 otherwise;

$\quad$ EM2 = 1 in companies with NI much more than 0 (0.075≤NI), 0 otherwise;

$\quad$ EM3 = 1 in companies with NI much less than 0(NI≤-0.075), 0 otherwise;

$\quad$ REM = ACFO + APC + ADE;

$\quad$ ACFO = (−1)×residual from the estimation model of equation (1);

$\quad$ APC = Residual from the estimation model of equation (2);

$\quad$ ADE = (−1)×residual from the estimation model of equation (3);

$\quad$ OWNH = 1 if majority shareholders holds more than the median value, 0 otherwise;

$\quad$ SIZE = Natural log of total assets;

$\quad$ MTB = Market value of equity / book value of equity; and

$\quad$ NI = Net income / beginning total assets.

TABLE 5
Pearson Correlations between Variables

	$EM2$	$EM3$	$OWNH_t$	REM_t	$ACFO_t$	APC_t	ADE_t	$SIZE_{t-1}$	MTB_{t-1}	NI_t
$EM1$	-0.246 (<.0001)	-0.133 (<.0001)	-0.085 (<.0001)	0.093 (<.0001)	0.076 (<.0001)	0.077 (<.0001)	0.059 (<.0001)	0.102 (<.0001)	-0.081 (<.0001)	-0.130 (<.0001)
$EM2$		-0.125 (<.0001)	0.075 (<.0001)	-0.261 (<.0001)	-0.242 (<.0001)	-0.223 (<.0001)	-0.106 (<.0001)	0.009 (0.450)	0.127 (<.0001)	0.609 (<.0001)
$EM3$			-0.083 (<.0001)	0.143 (<.0001)	0.171 (<.0001)	0.100 (<.0001)	0.032 (0.010)	-0.111 (<.0001)	0.044 (0.000)	-0.678 (<.0001)
$OWNH_t$				-0.041 (0.001)	-0.063 (<.0001)	-0.014 (0.253)	-0.016 (0.193)	-0.109 (<.0001)	-0.045 (0.000)	0.126 (<.0001)
REM_t					0.585 (<.0001)	0.910 (<.0001)	0.744 (<.0001)	-0.033 (0.008)	-0.159 (<.0001)	-0.294 (<.0001)
$ACFO_t$						0.274 (<.0001)	0.036 (0.004)	-0.052 (<.0001)	-0.068 (<.0001)	-0.302 (<.0001)
APC_t							0.744 (<.0001)	-0.011 (0.366)	-0.172 (<.0001)	-0.233 (<.0001)
ADE_t								-0.024 (0.051)	-0.142 (<.0001)	-0.097 (<.0001)
$SIZE_{t-1}$									-0.065 (<.0001)	0.083 (<.0001)
MTB_{t-1}										0.033 (0.009)

Notes: Numbers in the parentheses are p-values.
See TABLE 4 for variable definitions.

TABLE 6
Results of Hypothesis 1

$$Y_t = \alpha_0 + \beta_1 \cdot OWNH_t + \beta_2 \cdot SIZE_{t-1} + \beta_3 \cdot MTB_{t-1} + \beta_4 \cdot NI_t + \varepsilon_t$$

Variables	Pred. sign	REM Coeff.	REM t-stat	ACFO Coeff.	ACFO t-stat	APC Coeff.	APC t-stat	ADE Coeff.	ADE t-stat
Intercept	?	0.174	4.76***	0.070	4.67***	0.066	3.21***	0.058	4.88***
$OWNH_t$	−	0.005	0.36	-0.005	-2.89***	0.002	0.75	-0.001	-0.78
$SIZE_{t-1}$	−	-0.003	-2.11**	-0.002	-3.23***	0.000	-0.48	-0.001	-2.69***
MTB_{t-1}	−	-0.041	-13.76***	-0.006	-5.09***	-0.025	-14.91***	-0.012	-12.76***
NI_t	−	-0.789	-24.26***	-0.333	-24.76***	-0.351	-18.85***	-0.073	-6.92***
Industry	?	Included		Included		Included		Included	
Year	?	Included		Included		Included		Included	
Adjusted R^2		0.113		0.096		0.085		0.033	
F-stat		31.54***		26.47***		23.18***		9.23***	
No. of samples		6,440		6,440		6,440		6,440	

Notes: *, **, *** represent significance at the 10, 5, and 1 percent levels, respectively.
Y represents *REM*, *ACFO*, *ADE*, or *APC*.
See TABLE 4 for variable definitions.

TABLE 7
Results of Hypothesis 2

$$Y_t = \alpha_0 + \beta_1 \cdot EM1_t + \beta_2 \cdot (EM1 \times OWNH)_t + \beta_3 \cdot EM2_t + \beta_4 \cdot (EM2 \times OWNH)_t +$$
$$\beta_5 \cdot EM3_t + \beta_6 \cdot (EM3 \times OWNH)_t + \beta_7 \cdot SIZE_{t-1} + \beta_8 \cdot MTB_{t-1} + \beta_9 \cdot NI_t + \varepsilon_t$$

Variables	Pred. sign	REM		ACFO		APC		ADE	
		Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat
Intercept	?	0.207	5.76***	0.072	4.84***	0.084	4.05***	0.063	5.31***
EM1	+	0.031	3.92***	0.010	3.32***	0.011	2.42**	0.008	3.22***
EM1×OWNH	−	-0.029	-2.75***	-0.009	-2.11**	-0.012	-1.99**	-0.007	-2.07**
EM2	−	-0.046	-4.12***	-0.017	-3.79***	-0.024	-3.86***	-0.004	-1.30
EM2×OWNH	− /?	0.000	-0.09	0.000	-0.01	0.001	0.21	-0.002	-0.66
EM3	?	-0.033	-1.87*	0.000	-0.11	-0.026	-2.61***	-0.005	-1.00
EM3×OWNH	− /?	0.007	0.35	-0.010	-1.26	0.018	1.63	0.004	0.63
$SIZE_{t-1}$	−	-0.005	-3.34***	-0.002	-3.83***	-0.001	-1.50	-0.001	-3.38***
MTB_{t-1}	−	-0.036	-12.02***	-0.004	-3.68***	-0.023	-13.32***	-0.011	-11.74***
NI_t	−	-0.702	-11.14***	-0.288	-11.02***	-0.319	-8.80***	-0.062	-3.02***
Industry	?	Included		Included		Included		Included	
Year	?	Included		Included		Included		Included	
Adjusted R^2		0.123		0.101		0.092		0.036	
F-stat		29.24***		23.77***		21.55***		8.51***	
No. of samples		6,440		6,440		6,440		6,440	

Notes: *, **, *** represent significance at the 10, 5, and 1 percent levels, respectively.
Y represents *REM*, *ACFO*, *ADE*, or *APC*.
See TABLE 4 for variable definitions.

TABLE 8
Impact of Majority Shareholder Ownership on Performance across Earnings Management Incentives Brackets

$$CAROA = \alpha_0 + \beta_1 \cdot EM1_t + \beta_2 \cdot (EM1 \times OWNH)_t + \beta_3 \cdot EM2_t + \beta_4 \cdot (EM2 \times OWNH)_t + \beta_5 \cdot EM3_t + \beta_6 \cdot (EM3 \times OWNH)_t + \beta_7 \cdot SIZE_t + \beta_8 \cdot BTM_t + \beta_9 \cdot ROA_t + \beta_{10} \cdot RET_t + \varepsilon$$

Variables	Pred. sign	1 Year Coeff.	1 Year t-stat	2 Year Coeff.	2 Year t-stat	3 Year Coeff.	3 Year t-stat	4 Year Coeff.	4 Year t-stat	5 Year Coeff.	5 Year t-stat
Intercept	?	-0.041	-4.26***	-0.152	-7.39***	-0.176	-7.42***	-0.439	-7.2***	-0.660	-7.89***
$EM1$	−	-0.007	-3.45***	-0.021	-4.38***	-0.027	-4.93***	-0.035	-2.56**	-0.050	-2.76***
$EM1 \times OWNH$	+	0.000	-0.20	0.009	1.38	0.018	2.48**	0.045	2.35**	0.063	2.49**
$EM2$	+	0.065	22.54***	0.106	17.14***	0.098	13.56***	0.046	2.39**	0.138	5.03***
$EM2 \times OWNH$	+ /?	0.004	1.19	0.015	2.05**	0.015	1.80*	0.041	1.80*	0.000	-0.01
$EM3$	− / +	-0.200	-51.02***	-0.340	-40.59***	-0.324	-33.32***	-0.298	-11.81***	-0.309	-8.92***
$EM3 \times OWNH$	+ /?	0.046	7.66***	0.122	9.45***	0.105	7.09***	0.190	5.05***	0.120	2.33**
$SIZE$	+	0.002	4.49***	0.008	7.49***	0.009	7.31***	0.021	6.54***	0.032	7.21***
BTM	−	-0.001	-3.41***	-0.008	-9.16***	-0.008	-7.55***	-0.007	-2.78***	-0.010	-2.86***
ROA	+	0.085	21.3***	0.145	16.96***	0.137	14.17***	0.986	41.48***	0.921	29.57***
RET	+	-0.002	-1.94*	0.026	10.04***	0.030	9.98***	0.034	4.51***	0.035	3.46***
Adjusted R^2		0.568		0.456		0.378		0.354		0.255	
F-stat		785.84***		501.18***		335.78***		277.82***		159.03***	
No. of samples		5,962		5,960		5,499		5,045		4,601	

Notes: *, **, and *** represent significance at the 10, 5, and 1 percent levels, respectively. See TABLE 4 for definitions of other variables.

$EM1$ = Companies with NI slightly greater than 0;

$EM2$ = Companies with NI much more than 0;

$EM3$ = Companies with NI much less than 0;

$CAROA$ = $\Sigma(ROA_{it}$ − mean value of ROA within industry);

BTM = Book value of equity / market value of equity;

ROA = Net income / total assets; and

RET = 12 month's buy-and-hold stock return.

RELATED PARTIES' TRANSACTION AND EARNINGS MANAGEMENT: A CASE IN INDONESIA

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Abstract

This study investigates the association between related parties' transactions and earnings management in Indonesia. Firm's executives officers accompanied by board of director members usually engage in related parties' transactions to expropriate the firm's resources. Therefore, they have incentives to manage earnings either to increase their perquisites or possibly to mask such expropriation.

This study presents evidence that earnings management measures are positively associated with certain types of related parties' transactions. Overall, this study concludes that concerns about related parties' transactions as a factor associated with earnings management are warranted, especially for certain related parties' transactions. There are purchase costs from subsidiary or parent companies and expenses incurred from the firm's related parties' transactions.

Keywords: *related parties' transactions, perquisite, earnings management*

JEL Classification: M-42

BACKGROUND

This research is aimed to investigate the association between related parties' transaction and earnings management in Indonesia. Like the association between this transaction type and earnings management in the United States of America (Gordon and Henry, 2005), this association could be also evidenced in Indonesia. The company ownership structures in Indonesia are highly concentrated to one group, especially founding family (Claessens et al., 2002). It is used to fortify the interest of their own family founder (Shleifer and Vishny, 1997). The existences of this transaction were also supported by weak law enforcement and bad corporate governance that make the monitoring function becoming hard to be applied (La Porta et al., 1999).

The public companies in Indonesia were initially private companies founded by one family. The decision to seek fund from capital market was not fully followed by thorough issuance of company shares, nor even the control over the company. Most of the issued company shares will actually come to the family founder back. One way of such control is establishing some subsidiary companies (if they are not yet exist before) and then sells most of the company shares to its subsidiary companies. Besides, to maintain the control over the company, the family of company founder holds the position within company management. Claessens et al. (2002) investigated and discussed about this.

Issuing their shares bought by either family founder or subsidiary companies and establishing new subsidiary companies did not occur by itself. Gray (1988) argued that high tendency of collectivism, wide power distance, and high secrecy is common in East Asian companies, including Indonesia (Sudarwan and Fogarty, 1996). The argument above implies that many companies in Indonesia tend not to disclose too transparently about themselves, including their related parties' transaction.

The existence of related parties' transaction is not something prohibited. On the contrary, Indonesia Accounting Standard Boards (IASB) considers the related parties' transaction as normal transaction. However, IASB recognizes that related parties' transaction may have influence to the firms' financial position and income statements. The related parties may conduct transaction that cannot be done by ordinary related parties. This transaction can be done at the different price from similar transaction done by ordinary related transaction (Indonesia-SFAS No. 7, par. 6-7).

IASB attention to related parties' transaction in the matter of financial reporting in Indonesia is very relevant. Special-related parties' transaction is highly probable and even may dominate the most of all firms' transactions. Through specially parties' transaction, company earnings can be really manipulated, so it looks better than actually, while the cash and earnings can be distributed among the companies within the group. This transaction is not only occurred in the companies at developing countries, but it is also occurred at advanced countries (Jian and Wong, 2003). Actually, several companies at developed countries also use the related parties' transaction to transfer their assets and earnings for the majority shareholders.

There are many examples in Indonesia that can serve as evidence. The example is Salim family company network, the main owner of public company PT. Indofood Sukses Makmur (ISM). ISM has wide network and even to the upstream, i.e. PT. Bogasari Flour Mills, the raw material main supplier of instant noodle ISM product. ISM also has connection to the funding resource, namely Bank Central Asia. Besides ISM, there are still many more, if not said almost all of them, other companies in Indonesia also have special relation with one or more companies and do their various transaction types. However, as cited by IASB, the problems do not lay on the existence of special relation or on the transactions occurred among these parties. The problems arise when the executive officers

or board of director members take the chance for their own interest from the company's special relation.

A lot of parties, such as regulators and market participants, consider the related parties' transaction as a potential conflict of interest. Having the authority upon various inter-company transactions, the managers have powerful incentives to deceive the shareholders control rights and to overcome the monitoring function of shareholders and board of directors. The deceitful managers may use this transaction to gain more benefits of their positions or use it to justify (or even to increase) perquisites that they would gain.

The theory expresses that there are at least two alternative perspectives about related parties' transaction, which each has different implication to the earnings management. The first perspective is that related parties' transaction raises the agency issue, similar to the perspective by Jensen and Meckling (1976). According to this theory, the chief executive has incentive to manage earnings in order to justify their perquisites or even to secrete their company resources overspent. The second perspective states that related parties' transaction is merely rational company requirement to fulfill its economic objectives. By having special relation with other companies, a company binds itself with other parties to fulfill their economic requirement. For instance, by having special relation with other companies, a company may acquire knowledge and skills. In this case, the managers do not have incentive to manage earnings because there is nothing to omit or eliminate. As a bonding mechanism, the special relation binds the related parties. The tendency to take risky actions such as earnings management will only endanger the company or its related parties (Gordon and Henry, 2005).

Both the first and second perspectives are interesting when used to investigate whether the related transaction in Indonesia is used in order to manage earnings or just to fulfill rational economic requirement. Companies' managers with concentrated ownership structure have two contradictive possibilities of their behavior. First, according

to alignment effect hypothesis, the managers of a company with concentrated ownership structure do not deceive and injure the minority shareholders. As a part of the company family owner, they are expected to report all transaction fairly. However, the second, entrenchment effect hypothesis expects otherwise. Because the law enforcement which does not support the property right well, the managers try to protect their own interest, which is to represent the control rights of company family founder or the majority shareholders (Shleifer and Vishny, 1997). Therefore, to protect themselves, there is a tendency to report transaction unfairly (Fan and Wong, 2002, Jung and Kwon, 2002). They conclude that discussion and empirical evidences pertaining to these hypotheses including empirical evidences have derived from both alignment effect hypotheses and entrenchment effect hypothesis in East Asia. They suggest that for all of transaction types that are most possible to be omitted is the related parties' transaction.

To audit for financial statements having much related parties' transaction is not an easy matter. AICPA (2001) gave three reasons why the parties having special relation and transaction with the special relation is hard to be audited. First, those transactions are not always easily identified. Second, even though other procedures have been conducted properly, the auditor usually let the management and the company owner to disclose their special relation with the other company and also the transaction among them. Third, those transactions are not always easily identified by the company itself.

Interesting empirical question from the discussion above is, considering legal condition, highly concentrated structure of ownership, and the cultural effects against accounting practice, whether related parties' transaction is used by the company to manage earnings or not. If empirically proven that related parties' transaction is associated with earnings management, the second question is which transaction is used

to manage earnings, among all seven transactions that have to be disclosed according to Indonesia-SFAS No. 7.

The answers to these research questions give new perspective about how earnings management is conducted. Previous researches about earnings management, especially the ones using Jones model (Jones, 1991) or its modification (Dechow et al., 1995), have never differentiated the sales or transactions according to their nature: whether the transactions occurred among independent parties or not. The related parties cannot be considered as independent, even though legally they are different entities. Therefore, transactions among related parties can always be utilized for executive interest which in turn may injure the interest of outsider or minority shareholders. The evidence of earnings management pattern among related parties may serve as input for the regulators and standard makers to public regulation, especially related to the related parties' transaction disclosure.

THEORITICAL FRAMEWORK

Accounting and reporting regulation

There are two main sources of accounting and reporting regulation on related parties' transaction, namely Indonesia-SFAS No. 7 and Indonesia SECs' regulation. Indonesia-SFAS No. 7 directs guidance to disclose transaction with related parties. Special-related parties' transaction also directed by Indonesia SECs' Regulation No.: VIII. G.7, about Financial Reporting Presentation Guide.

Indonesia-SFAS No. 7 states that parties who have special relation with the company are as follow, (1) company that control or being controlled or under common control with the company report publisher; (2) associated company; (3) company that has the right to vote at company report publisher and close family member of these individuals;

(4) company key employee; and (5) company where the substantial interest in the right to vote is owned either directly or indirectly by each person described at point (3) or (4), or each person above has significant influence over the company.

Paragraph 17 regulates some examples of transaction that need to be disclosed which generally are all transactions that potentially influence the company performance, from sales and purchases of goods and services, transfer of assets, financing, and contracts. Paragraph 19 explains that each transaction has to be disclosed in transaction volume, number or proportion of intermediary items, and pricing policy.

Appendix No.: Kep-06/PM/2000 of Indonesia SECs' Regulation No.: VIII. G.7 regulates to disclose all companies' transaction with related parties. This regulation describes in detail that these transactions have to be disclosed, namely:

1. Detailed number of each account of assets, liabilities, sales and purchases (expense) to the related parties along with the percentage against total assets, liabilities, and sales and purchases (expense);

2. If the sum of each transaction or the balance of each category with certain party is greater than Rp1.000.000.000,00 (one billion rupiahs), the sum must be presented separately, the name and related party must be disclosed;

3. The explanation of transactions which are not related to the main operation and the sum of payable/receivable related to those transactions;

4. The nature of relation, types and elements of related transaction;

5. Pricing policy and transaction condition along with the statement of whether the application of pricing and condition policy are equal with the pricing and condition policy for transaction with third party; and

6. The reasons for the basic establishment of related receivable allowance.

In other side, both Indonesia-SFAS and Indonesia SECs' regulations also add a statement, "… notes on financial report must present separately the sum of each transaction and balance with the directors, employees, boards of directors, major shareholders, and parties which have special relation …" They actually show clearly that, even though the related transaction is normal activities during company operation, this transaction gives incentive to the manager to act deceitful for their own interests and disregard the shareholders interest. In the case of Indonesia, the minority shareholders who are not part of the family of company founder would be losses their welfares.

Earnings management literature

Earnings management occurs when the company managers use their discretionary accounting accrual in presenting financial statements and transactions controls. They do to deceive the outsider users about their base economic performance or to influence contractual output which depends on reported income numbers (Healy and Wahlen, 1999). Previous studies have tried to investigate the incentive and the mechanism of earnings management. However, most studies focused on earning management through financial reporting, especially discretionary accounting accrual. Jones (1991) developed a model using the change of incomes and property, plant, and equipments to estimate the nondiscretionary accrual. He found that the companies in industry which request the unlocked import faucet tend to decrease their discretionary accounting accrual during two or three years before.

Healy and Wahlen (1999) concluded that earnings management literature can only give modest input to the standard makers. According to them, the motivations of earnings management come from: (i) expectation and judgment of capital market, (ii) contracts they wrote in form of accounting income numbers, and (iii) anti-trust regulation or other government regulation. Their finding indicates that earnings management occurs for various

reasons. Those are to influence the capital market perception, to increase management competency, to decrease infringement tendency of debt-contract covenant, and to avoid regulatory intervention.

In the matter of related parties' transaction, empirical research theory implies two alternatives of perspective. The first perspective states that related parties' transaction causes agency issue, as presented by Jensen and Meckling (1976). Jensen and Meckling categorized agency conflict between managers and outsiders shareholders as the managers' tendency to spend company resources for their personal interests, similar to perquisites. Accounting and business articles and accounting standards believe that related parties' transaction shows potential of company resources spending for personal interest, namely expropriation (Gordon and Henry, 2005).

If the company chief executives and/or the boards of director members will involve in related parties' transaction, their personal interest expenditure (perquisites), they would have incentive to manage earnings in order to justify (or to increase) their personal financing or to omit their personal expenditure. This perspective is consistent with the definition by Schipper (1989) about earnings management as an intentional intervention to the financial reporting process, in order to gain personal benefits.

Another perspective considers the related parties' transaction as another form of economic demand or a mechanism that binds one or more parties involved in the company (Gordon and Henry, 2005). For example, an associated company that is generally known to have considerable service knowledge is greatly required by another company. Therefore, it is more effective for the company to cooperate with its associated company rather than the other outsiders. In this case, it is reasonable that there is no incentive for the manager to manage earnings because such cooperation does not need to be covered up. Therefore, this relationship formulation does not give expected benefits for those companies from

existence of the association between the earnings management and related parties' transaction.

The same logic is also applicable to explain someone's motivation having special relationship with the company. For example, the company employed the sons of chief executive officers or board of director members. Because of their occupancies, chief executive officers and his son depend on the company where they work, and then the chief executive will not take action that may endanger the company, such as earnings management that may ruin the company or his son's relationship with the company. Another example, a board of director has a contract as a consultant company. If the board of director had tendency to manage earnings, his position within the board of director or his agency contract may be terminated. Therefore, as a bonding mechanism, transaction with related parties devotes a very limited or small incentive to drive earnings management.

Contradictive points of views about related parties' transaction show the complexity matters. The assumption hold by the standard makers is that such transaction is not conducted independently, unlike transaction between non-affiliated parties. A part of such transaction may be based on different recognition and measurement rather than regular transaction (US-SFAS No. 57, par. 3 and Indonesia-SFAS No. 7, par. 7). Accounting standards regulate to disclose these related parties transactions because the information contents of such transactions may be useful for the all of financial statement users to accounting information comparability (US-SFAS No. 57, par. 18 and Indonesia-SFAS No. 7, par. 18-19).

Related to the concern that such transactions were not conducted independently and fairly, many companies disclose that their contracts were made with related parties under conditions that were at least equivalent to any other parties. If a company conducted a transaction with certain parties having special relationship or at least could increase and did not reduce stock holders welfare, there would not be any negative impact for the

company and there would not be any reason to manage earnings. However, according to Henry and Gordon (2005), due to the cost other than contracting cost, the disclosure of related parties' transaction does not always mean that the company is not affected by this transaction. There are some other economics costs for the company who conducted transaction with related parties, such as monitoring cost, opportunity cost, and reporting complexity cost.

Some research has been conducted to obtain deep understanding about this transaction. Gordon and Henry (2005), for instance, studied the relationship between this transaction and earnings management. They found evidences that adjusted absolute abnormal accrual are related to certain special party and to certain transaction type. They showed that transactions involving fixed rate interest financing with firms' related parties, either its existence or its sum of dollar, is associated positively with adjusted absolute abnormal accrual which serves as earnings management indicator.

Gordon et al. (2004) found that transaction with related parties usually associates with the corporate governance mechanism. It usually is marked with low management compensation and low market return. Kohlbeck and Mayhew (2004) found that some related parties' transactions associate with the chief executive compensation, while the others do not. Cheung et al. (2004) who studied in Hong Kong stock exchange finds that companies whose ownership characteristics is highly concentrated and institutional ownerships. The specific market characteristics in Hong Kong stock exchange have implied that traders of the concentrated shareholder ownership or institutional ownership are able to do stock trading with inter parties having special relationship. They find that positive abnormal return during the announcement of such transactions is associated with the ownership percentage of stockholder control rights and serves as a proxy of information disclosure. Jian and Wong (2003) proved that the debt-covenant companies report their sales level with the related parties' items higher than non debt-covenant companies. They

had incentives to inflate their accounting earnings to avoid eviction from the stock market or before they issued new shares.

Studies related to board of director composition using the existence of related parties' transaction are aimed to classify the member of non chief executive directors as affiliated or grey directors (Klein, 2002a, Vicknair et al., 1993, Hermalin and Weisbach, 1988). Affiliated board of director is considered as non independent member. Klein (2002b) examined the association between earnings management and audit committee independence and board of directors' independence. Based on the role of audit committee as the mediator who reduce conflict between management and auditor, they were expected to produce more accurate audit reports. Klien (2002b) hypothesized that an independent member of audit committee is the one who could play his role as an active supervisor against financial reporting process. He predicted that audit committee independence is associated negatively with earnings management. He later found that the audit committee independence and director independence are associated negatively with earnings management. In addition, he concludes that independent directors could monitor effectively firms' financial reporting process.

Hypotheses Development

The transaction between a company and its related parties can be seen from two perspectives; opportunistic and normal operational. Indonesia-SFAS No. 7 par. 16, for instance, states that the company transactions with its related parties are not always based on opportunistic motives. Special related parties' transaction might be possible because it must be done for the company survival. Furthermore, the affiliated company is the only one product buyers. However, unrelated to such matter, the manager's incentive to do opportunistic transaction with affiliated company is highly supported by

the law enforcement. Within strong law enforcement, including the transparency reporting regulation, the incentive to deceit earnings management is less than within weak law enforcement.

The law enforcement in Indonesia is not yet strong, if not said otherwise. Within such enforcement, the way of company owner-founder to protect its property right is dominant ownership over the company at stock market (La Porta et al. 1999). Majority ownership is not the only way, so that they don't loose their control right over this company. To maintain their control right, the company must grow well. Company with good profitability has less probability to be overtaken by its competitors. Considering the ownership structure that is highly concentrated to one founding family because due to the weakness of property right regulation and managers as part of founding family. We may assume that company managers try not to loose their control rights. La Porta et al. (1999) suggests that the Indonesia companies before going initial public offering have previously set subsidiary companies to buy their issued shares. Most subsidiary companies usually have business line connected to parent companies. Thus, the incentive to do transaction with its related parties is clear enough. Similar to Klein (2002b), Gordon et al. (2004), and Gordon and Henry (2005), our maintained hypothesis is that related parties' transactions are associated with earnings management. Therefore, this study suspects that the related parties' transaction associated with earnings managements.

__H1__: Special-related parties' transaction items associated positively with earnings management.

RESEARCH MATHODS

Sampling

The sample consists of all manufacture companies whose shares are listed at Indonesia Stock Exchange (IDX), that include all shares listed at Jakarta Stock Exchange before its merging with Surabaya Stock Exchange). The focus on manufacture companies was aimed to ensure that the conclusion is not affected by other industry characteristics. The weakness of this sampling method lies on its generalization validity. However, in order to obtain stronger conclusion, the weakness has been minimized.

The companies included within sample should have complete financial data; those are cash flows, total assets, liabilities, sales, net income, and market value. Sample also should have adequate explanation about its related parties' transaction. Sample was selected from last ten years of reporting.

Operational Definition and Measurement

Independent variable

The disclosure about parties who has special relationship with a company within sample may be obtained from the company financial report. Indonesia-SFAS and Indonesia SEC regulations require some related parties' transaction disclosure at financial statements. Special-related parties' transaction may be categorized into four dimensions, namely transaction involving primary parties, transaction involving secondary parties (if any), types of related parties' transaction, and the sum of related parties' transaction. Parties are considered as primary by their relationship with the company. These primary parties include management, board of directors, majority shareholder (owner), subsidiary company, associated company, and affiliated company.

Secondary parties consist of various individuals, such as family member of primary parties, company owned by primary parties, company that has the same key management as primary parties, primary parties affiliated company or parties, and management of subsidiary company. If transaction occurred directly between one primary party and company (for example, the company gave loan to its associated company), there would be no secondary parties involved.

The third dimension is the type of transaction. Various types of transaction are identifiable within this research, including direct service delivery between related parties, goods or services purchase contracts with related parties, sales to related parties, loan, investment, and others. The last dimension is the rupiah sum of transaction conducted by the company with its related parties. Principal summing was calculated for loan, fixed-interest rate financing, investment, and other single transactions. Annual summing is used whether transaction continue or occur frequently in sequential years such as goods/services purchase contract and sales.

Dependent variable

This research uses abnormal accrual as earnings management measure. This measure has been widely used in earning management research. To calculate total accrual, this study starts from expected accrual estimation using modified Jones model (1991) as follows.

$$\text{ACCR}_{j,t}/\text{TA}_{j,t-1} = \alpha(1/\text{TA}_{j,t-1}) + \beta(\Delta\text{REV}_{j,t}/\text{TA}_{j,t-1}) + \chi(\text{PPE}_{j,t}/\text{TA}_{j,t-1}) + e_{jt} \tag{1}$$

where, ACCR$_{j,t}$ is total accrual for company j *during year* t*, which is net income subtracted by operating cash flow, TA$_{j,t-1}$ is total assets, ΔREV$_{j,t}$ is change of net sales, PPE$_{jk,t}$ is gross value of property, plant and equipment (fixed assets),* e *is residual*

errors. Abnormal accrual is calculated using estimate resulted from equation (1), and

then applied in the following equation (2).

$$AAC_{j,t} = ACCR_{j,t}/TA_{j,t-1} - [\alpha(1/TA_{j,t-1}) + \beta(\Delta REV_{j,t}/TA_{j,t-1}) + \chi(PPE_{j,t}/TA_{j,t-1})] \qquad (2)$$

where, $AAC_{j,t}$ is abnormal accrual for company j during year t. Abnormal accrual is used as independent variable to examine the association between related parties' transaction and earnings management.

Analysis method

Unlike the independence of audit committee or board of directors, company-specific scale for related parties' transaction is unclear. The logic measure of audit committee independence or board of director is the number of independent committee or directors divided by the sum of audit committee or board of director members. On the other hands, the absence of the sum of every transaction type and with which firms do relationships make company-specific scale of related parties' transaction identification to be difficult (Gordon and Henry, 2005). Therefore, this research examines various measures of related parties' transaction as independent variable, including number of company transaction types, whether the company has transaction with primary or secondary parties, or certain type of transaction, and sum of disclosed transaction, if available.

Later, this study calculates abnormal accrual for each measure of related parties' transaction. If earnings management did exist, positive and significant association between abnormal accrual and related parties' transaction is expected. This study constructs by adding other factors that have been known to have association with earnings management. This addition is important to prevent the mistake of null hypothesis rejection about the

absence of abnormal accrual when the null hypothesis is actually true (Bartov et al., 2000, and Klein, 2002b). Previous researches have found positive association between preceding year profitability with earning management. To capture expected growth, the researcher includes equity market value. Additionally, this research includes operating cash flow and one indicator for negative income to control other properties of accounting earnings and accrual. Previous researches have found that leverage associates positively with earnings management (DeFond and Jiambalvo, 1994). Finally, the researcher includes political cost measured by company value, because political cost has negative association with earnings management. This regression model is formulated in the following model (Gordon and Henry, 2005).

$$AAC_{jt} = \alpha + \beta RPT_{j,t} + \gamma_1 Abs(\Delta NI)_{j,t} + \gamma_2 MV/BVA_{j,t} + \gamma_3 OCF_{j,t} + \gamma_4 NegNI_{j,t-1}$$

$$+ \gamma_5 Debt_{j,t} + \gamma_6 Log(Assets)_{j,t} + e_{j,t} \tag{3}$$

where, AAC_{jt} is abnormal accrual for company j during year t, RPT is the measure of related parties' transaction, Abs(ΔNI) is absolute value of net income change divided by one year of total assets lag, MV/BVA equity market value divided by equity par value measured during the beginning of the year, OCF is cash flow during year t divided by total assets during the beginning of the year, NegNI is indicator variable which equals to one if the company reported negative earnings during preceding year and to zero if otherwise. Debt is long term liability divided by total assets at the beginning of year, and Log(Assets) is logarithm of total assets.

In order to examine further and to enhance the method used by Gordon and Henry (2005), this research re-investigates the previous regression examination result. This research examines by differentiating discretionary accounting accrual into positive

and negative discretionary accrual as dependent variable. This considers the sensitivity in which the measure of related parties' transaction affects discretionary accrual. More specifically, this examination suspects that the one affected is not at the base of accrual measure, but the probability of increase or decrease of accrual measure. The formulation of regression is as follows.

$$Ln(V_{AACjt}/(1- V_{AACjt}))= \alpha + \beta RPT_{j,t} + \gamma_1 Abs(\Delta NI)_{j,t} + \gamma_2 MV/BVA_{j,t} + \gamma_3 OCF_{j,t} +$$

$$\gamma_4 NegNI_{j,t-1} + \gamma_5 Debt_{j,t} + \gamma_6 Log(Assets)_{j,t} + e_{j,t} \qquad (4)$$

where, V_{AAC} is the probability of increase or decrease of abnormal accounting accrual for company j during year t, other explanations of all independent variables are the same as previously mentioned. The hypothesis that related parties' transaction associates with earnings management is when this RPT coefficient (β) variable from equation (3) and (4) have positive value and statistically significant.

RESULT ANALYSIS

Descriptive Statistics

The result of descriptive statistics examination is presented at Table 1. The mean of company sample that has income (in absolute value) is Rp140 billions, and the median equals to Rp30 billions. The operating cash flow has mean of Rp11 billions and median of Rp26 billions. Both mean and median values of operating cash flow show that sample curve tends more to the right side and the sample values lie more in the left side from normal

curve. Similar conclusion is applicable for liability, but not for total assets that has been deflated by natural logarithm.

Insert Table 1 about here

Table 2 presents the descriptive statistics of related parties' transaction form company sample. The mean of related parties' number own by a company equals to 8.18. A company, for example PT. Daya Sakti Unggul Corporation, reported the biggest number of related parties, which were 34 related parties during 1997. However, this number reduces to approximately nine percents during 2006. Using frequency distributions for each related party who did transaction with company sample shows highly rank. The highest frequency of related parties that have disclosed transaction equals to nine percent, which is at sixth grade special related parties. Eighty percent of observation sample reports the number of related parties under 12 parties.

Insert Table 2 about here

Special-related parties' transactions which have zero values do not mean that the company did not do transaction with its related parties every year. For example, the zero value of related parties account receivable does not mean that there are no account receivable transactions or other receivables. The zero value only shows that the company did not disclose the transaction at all or disclosed the transaction but hidden the item

number. Inversely, the company may not report the name of its related parties' items, but disclosed only its related parties' transaction. This research includes this transaction into analysis.

This research reviews that related parties and the transaction whose values presented at Table 2 is just as much as the financial reporting disclosure. Some companies clearly stated the item numbers, for example the employee and directors' receivables. Other companies only stated that such receivables did exist but did not disclose the item numbers of the receivables. Usually, they only showed that such receivables are combined with other assets into "other assets" classified-account. When this occurred, the researcher did not include into analysis.

Hypothesis Examination

Table 3 shows the result of bivariate inter-correlation examined variables. This relationship serves as initial evidence about the relationship among variables observed in this research. Abnormal accrual (AAC) has positive relationship with net income, dummy negative/positive income, and total assets. The relationship between income and abnormal accounting accrual that has positive sign shows that income associates with abnormal accrual. Inversely, operating cash flow associates negatively with abnormal accrual. This relationship is in accordance with the prediction of previous researches.

Insert Table 3 about here

Table 4 shows the regression result between all variables within this research. The researcher conducts two kinds of regression. First regression is aimed to proof the

existence of earnings management at company sample. Meanwhile, the second regression puts related parties' transaction variable into regression equation. There are six variables that are related to this transaction, namely sums of related parties who do transaction for all year long, receivables, incomes, debts, purchases, and expenses those occur due to company's transaction with its related parties. Each variable at the second examination is included into the regression model once only.

Insert Table 4 about here

All seven regressions show F-values those are statistically significant. Adjusted R^2 values are approximately 28%, except the seventh equation. This result shows that the variables are associated with earnings management. The biggest F-value is shown by equation reg-7 that equals to 37.150. This high value is caused by significance of related parties' transaction variable. The detailed result for each variable is as follows. Net income shows positive signs and significant associations as predicted. From all seven regressions, it is shown that absolute income variable is always statistically significant. In other words, absolute income affects the managerial action to manage accounting and reporting its earnings.

Operating cash flow has direction that is in accordance with predicted signs. Because accounting is based on accounting accrual, the usage of cash basis is able to prevent earnings management, or at least cash basis has negative association with this managerial behavior. Basically, earnings management usually associates with the company operational activities, so that operating cash flow is suspected to have negative association with earnings management. The examination results present negative association evidence

that is statistically significant for all equations. Negative income dummy variable values one if the company reported losses or zero if otherwise. Except for second and sixth equations, this variable does not show statistically significant results. It means that losses income numbers associates statistically significant with earnings management.

DeFond & Jiambalvo (1994) suggests that leverage associates positively with earnings management. This study used long term debts as a proxy of leverage. Our current study shows results that debts associate positively and statistically significant at three of four regression equations. However, at first equation, debts are unable to explain statistically about the behavior of earnings management.

Total assets as a function of political costs hypothesis do not have sign direction as predicted. The sample does not show that political costs are the consideration for the company to do earnings management. The behavior of company managers is not to lessen company assets when they manage their earnings. This phenomenon is completely different from political costs hypothesis which predicts that company tends to avoid it (Watts & Zimmerman, 1986).

From six variables of related parties, only the purchases variables between the company and its related parties and expenses of related parties' transaction that is statistically significant. The company sample does earnings management by increase its purchases with its related parties. Additionally, this examination shows transactions that make the company managers to put transaction expenses in its financial reports that positively affect earnings management. Both purchases and transaction expenses has relationship in the process to affect earnings management. The reason is, both purchases and transaction expenses are to be used as tools to lower company income. Greater purchases raise costs of good sold and then decrease their income. Similar process applies to transaction expenses. Therefore, the regression result is coherent with the conclusion of dummy variable above.

SENSITIVITY ANALYSIS

To re-examine the result of linear regression test, this research do similar variables using probabilistic regression which is based on the probability of positive and negative abnormal accrual. The detailed result is presented at Table 5 as follows.

Insert Table 5 about here

All seven probabilistic regressions show result of -2 log likelihood values which are statistically significant. Negelkerke-R^2 values are approximately 26%. This result implies that probabilistic regression examination strengthen the validity result that has been obtained from linear regression examination. The associations between various variables and earnings management are relatively equal which are explained in detail as follows. The change of absolute net income does not affect abnormal accrual during the equivalent years. Meanwhile, operating cash flow, negative income, debts, and total assets are always statistically significant and have signs those are in accordance with prediction. In other words, all variables except net income affect the action of company earnings management.

From six related parties' transaction variables, only purchases between the company and its related parties are statistically significant. This means that the companies sample do their earnings management by increasing the sum of purchases to its related parties. This only one, that is purchases, has association in its process to affect earnings management. Therefore, this study concludes that purchases are tool used to lower current accounting income. Greater purchases increase the cost of good sold and then lower accounting income.

FINDINGS AND DISCUSSION

This research finds that purchases have relationship with earnings management. This finding is highlighted that most Indonesia companies are subsidiary of other foreign companies. This relationship shows that most Indonesia companies have capital dependency to their parent companies abroad. Because of subsidiary company, it often does purchases from parent company, for instance, PT. Voksel Electric reported purchases raw material and spare parts from its affiliated company up to 81% from its total purchases during 2004. This fact indicates that Indonesia firms depend upon their parent company, especially on raw material imported for their products. However, not every company should depend on raw material from abroad. For example, PT. Barito Pacific Timber even sells its products to its parent company abroad. This research suspects that different business characteristics among Indonesia companies make purchases significance to be just at the level of 5%.

Another significant variable is expenses of related parties' transaction. This variable affects earnings management at significance level of 1%. Unlike the explanation about purchases from related parties above, expenses are relatively easier to use for parent or subsidiary company as earnings management instruments. This expenses charging can be used by the company to lower its earnings during a period and report earnings lower than it should be.

Both expenses and purchases provide incentives for managers to lower their company earnings. This result supports the finding of negative income dummy variable. It means that company sample tendency is to lower accounting income than otherwise. More specifically, companies tend to use purchases and expenses transaction as tool to lower their reported income. The usage of purchases and expenses transaction to lower reported income can be explained by observing the macro economics condition around research

observation period. Since 1995, Indonesia governmental regulation has required all companies who have more than Rp100 millions accounting income to aid Yayasan Sejahtera Mandiri. This policy obviously burdens the companies and serves as trigger for the companies to report lower income than it should be. Even though, this obligation has been abolished at 1998 or 1999, marked by its absence at financial reports, but then macro economic condition has worsen because of economic crisis. This crisis made most companies tend to report lower reported income even more. The recovery which is time consuming makes earnings management practice with predisposition to lower reported income occurs again.

CONCLUSION

From data observation, this research concludes that not all companies within sample report and own related parties transaction as stated Indonesia-SFAS No. 7. From 450 observations, as many as 5.6% observations have related parties which equal to zero. This research presents evidence that earnings management measures are positively associated with limited types of related parties' transactions. Overall, this study concludes that concerns about related parties' transactions as a factor associated with earnings management are warranted, especially for certain related parties' transactions. There are purchase costs from subsidiary or parent companies and expenses incurred from the firm's related parties' transactions.

However, this absence of related parties reported by companies in financial report has three possibilities of reasons. *First*, the companies do not really have related parties who do transaction with the companies during reporting year and there are not any transactions with related parties to be reported during the current year. *Second*, the companies actually have transactions with related parties but did not report which related parties, although the transactions and their sums were disclosed. This occurred when the

currency values of the transactions were considered relatively small so that they were included into account of "purchases to related parties", without explanation about which these related parties are. As previously mentioned, this research included zero value as the sum of related parties, even though in fact this research included transactions value according to their groups and their sums.

Third, companies actually have transactions with related parties but did not disclose them in their financial statements. This was found at the notes of financial statements which implied that those transactions occurred, such as the company dependence to raw material from associated company abroad. Such phenomenon was normal considering that related parties' disclosure and their transactions depend on chief executives and board of directors' desires. Companies such as Medco Energy [27], have tens subsidiary companies and disclose them in financial statements. Actually, the company only disclosed some of them. The financial statement users can only rely on the accounting information disclosed.

The full, fair or adequate disclosure of related parties and their transactions was affected by various factors, from management culture to disclosure costs. Additionally, related parties' transactions have operational and economic motives. Therefore, the expression that related parties' transactions were conducted under the same condition as third parties transactions, the related parties' transaction disclosure may be considered by the chief executives and board of directors or auditors as uneconomical and do not affect the firms' fundamental value. The majority control rights among companies which are very complicated makes the disclosure become expensive for the company.

The related parties' transaction disclosure becomes sensitive for the company when such transactions involved stockholders or company founders. Transactions that usually

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[27] This research excluded this company from sample for changing its functional currency from Indonesian rupiah to US dollar during 2002. This change caused the variables measurement become hard, because some transaction used currency exchange rate at transaction date, such as sales. Meanwhile, some other transactions used historical currency exchange rate, such as fixed assets.

occur between company and stockholders are other payables-receivables. Only few number of companies within sample disclosed that the company conducted transactions with stockholders and the full disclosure of involved stockholders' names. Usually such transactions were disclosed under "receivables to stockholders" or "payables from stockholders" labels without full disclosure of involved stockholders' names.

The disclosure by company was not entirely adequate so it covers who and how much transaction between the company and its related parties had been recognized. Some companies only disclosed in narrative form which stated those related parties' transactions have occurred without detailed explanations about the sum of transactions. The presented figures are the only evidence of a certain figure. For example, some companies disclosed its purchases to related parties compared to total purchases. Some other companies even disclosed in rough percentage by adding "approximately." Besides the transaction disclosure which is unclear, there is no uniformity on the disclosure among companies. Some companies disclosed their transaction, such as account receivables to related parties under account receivables group. Meanwhile, some other companies separated their third parties from related parties. However, it is not uncommon that companies disclosed these transactions under sections other than transactions as found in this study. For example, costs occurred from agreement, such as royalty payment to principal, were disclosed under the group of "agreement or contracts and bonding."

Culture (Gray, 1988; Sudarwan & Fogarty, 1996) and weak law enforcement in Indonesia (La Porta et al., 1999) serve as explanation about evidence that the disclosure of Indonesia companies were bad and irregular. Most Indonesia companies were founded by family and they want to stay in their companies because they do not want to loose their ownership entirely. Secrecy is often considered as one way to maintain their control rights. When it was chosen, then the disclosure becomes weak and bad.

Company is the only side who understand certainly with whom the firm management does transactions. Not only have the users of financial report depended on full information disclosure from companies, but it also does the auditors. This study is only able to identify related parties as long as they were disclosed by the company. In this research, we find that company did transactions with other companies or subsidiary companies whose names those were so much alike, but they were still considered as third parties. However, they were reported as related parties a few years later. This shows that executive officers and board of directors are the only information sources and firm disclosures are the only ones which can be used by financial statement users.

Further research is recommended to improve the metric of related parties' transactions measurement. This research used the metric of research by Gordon and Henry (2005). The research acknowledged that this metric is not yet good enough to capture the phenomena of related parties' transactions. Some transactions were used overlapping in examinations, for examples, sales transactions. Jones' model (1991) uses sales to estimate accrual. The sales values itself were previously used to determine abnormal accrual. Our study concludes that the procedures of accrual estimation and its association with sales becomes bias to conclude.

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Table 1 Descriptive Statistics

	ACC	Abs ∆NI	OCF	Neg NI	Debt	Log(Total Assets)
Mean	-0.2352	$1.379 \times 10^{+11}$	$1.087 \times 10^{+11}$	0.349	$0.383 \times 10^{+12}$	11.818
Median	-0.1128	$2.983 \times 10^{+10}$	$0.263 \times 10^{+11}$	0.000	$0.715 \times 10^{+11}$	11.810
Std. Dev.	1.2705	$2.708 \times 10^{+11}$	$3.751 \times 10^{+11}$	0.477	$0.108 \times 10^{+13}$	0.520
N	450	450	450	450	450	450

Table 2 Descriptive statistics of related parties (SRP)
Panel A: Descriptive Statistics

	Special-related parties (SRP)					
	Sum	Acc. Receiv.	Income	Debts	Purchases	Expenses
Mean	8.18	$5.99 \times 10^{+10}$	$1.14 \times 10^{+11}$	$4.14 \times 10^{+10}$	$4.15 \times 10^{+10}$	$8.6 \times 10^{+9}$
Minimum	0	0	0	0	0	0
Maximum	34	$1.77 \times 10^{+12}$	$1.66 \times 10^{+12}$	$1.04 \times 10^{+12}$	$1.13 \times 10^{+12}$	$3.8 \times 10^{+11}$
N	450	450	450	450	450	450

Panel B: Distributive Frequency

	Frequency	Percent	Valid Percent	Cumulative Percent
0	25	5.6	5.6	5.6
1	31	6.9	6.9	12.4
2	23	5.1	5.1	17.6
3	40	8.9	8.9	26.4
4	26	5.8	5.8	32.2
5	31	6.9	6.9	39.1
6	41	9.1	9.1	48.2
7	26	5.8	5.8	54.0
8	31	6.9	6.9	60.9
9	30	6.7	6.7	67.6
10	22	4.9	4.9	72.4
11	12	2.7	2.7	75.1
12	22	4.9	4.9	80.0
13	8	1.8	1.8	81.8
14	15	3.3	3.3	85.1
15	14	3.1	3.1	88.2
16	8	1.8	1.8	90.0
17	9	2.0	2.0	92.0
18	5	1.1	1.1	93.1
19	5	1.1	1.1	94.2
20	2	0.4	0.4	94.7
21	1	0.2	0.2	94.9
22	7	1.6	1.6	96.4
23	1	0.2	0.2	96.7
24	2	0.4	0.4	97.1
25	1	0.2	0.2	97.3
26	2	0.4	0.4	97.8
28	1	0.2	0.2	98.0
29	1	0.2	0.2	98.2
30	3	0.7	0.7	98.9
31	1	0.2	0.2	99.1
32	2	0.4	0.4	99.6
33	1	0.2	0.2	99.8
34	1	0.2	0.2	100.0

Table3 Inter-variables correlation

	AAC	Abs ΔNI	OCF	Neg NI	Debt	Log TA
AAC	1					
Absolute NI	0,100*	1				
OCF	-0,382**	0,170**	1			
Negative NI	-0,135**	0.071	-0.092	1		
Debt	0,061	0,350**	0,372**	-0,049	1	
Log TA	0,190**	0,345**	0,329**	-0,104*	0,516**	1

Notes: *, ** significant at alpha consecutively 5%, and 1%.

Table 4 Linear regression results

Independent Variable	Coefficients						
	Reg-1	**Reg-2**	**Reg-3**	**Reg-4**	**Reg-5**	**Reg-6**	**Reg-7**
Absolute net income	3.6×10^{-13}*	3.5×10^{-13}*	4.3×10^{-13}**	3.9×10^{-13}*	3.9×10^{-13}*	3.9×10^{-13}*	3.6×10^{-13}*
Operating cash flow	-1.8×10^{-12}***	-1.8×10^{-12}***	-1.8×10^{-12}***	-1.8×10^{-12}***	-1.8×10^{-12}	-1.9×10^{-12}***	-2.2×10^{-12}***
Negative income dummy	-0.417***	-0.414	-0.412***	-0.391***	-0.420***	-0.398	-3.68**
Debts	9.2×10^{-14}	9.2×10^{14}	9.8×10^{14}*	8.1×10^{-14}	9.6×10^{-14}*	1.1×10^{-13}*	1.9×10^{-13}*
Log total assets	0.689***	0.664***	0.772***	0.669***	0.709	0.662***	0.566***

Sum of SRP	---	0.008	---	---	---	---	---
Receivables SRP	---	---	-4.3×10^{-13}	---	---	---	---
Income SRP	---	---	---	3.4×10^{-13}	---	---	---
Debts SRP	---	---	---	---	-6.5×10^{-13}	---	---
Purchases SRP	---	---	---	---	---	8.3×10^{-13}*	--
Expenses SRP	---	---	---	---	---	---	8.6×10^{-12}***
F value	36.321	30.405	30.653	30.749	30.511	31.057	37.150
Adj-R^2	28.2%	28.2%	28.4%	28.4%	28.3%	28.7%	32.6%

Notes: *, **, *** significant at alpha consecutively 10%, 5%, and 1%. The sum of related parties (SRP) is the sum of subsidiary/associated/affiliated companies, including employees, directors, and shareholders, owned by either consolidated company or the one involved in one or more transactions between the company and its related parties; Receivables SRP is sum of account receivables and other receivables given by the company to its related parties, including receivables to employees, directors, and shareholders; Income SRP is sum of operating income and non-operating income within one year due to related parties' transaction; Debts SRP is account payables and other payables, including from employees, directors, and shareholders; Purchases SRP is purchases conducted by the company to its related parties; Expenses SRP is expenses paid by the company to its related parties. All transactions are included into this research, if only clearly disclosed in financial reports.

Special notes: this research did not include par value that is calculated by equity market value divided by equity par value at the beginning of the year (MV/BVA). The reason is data unavailability of stock value at closing end year and number of previous year stocks, considering the length of period required by this research.

Table 5 Probabilistic regression result

Independent Variable	Coefficient						
	Reg-1	**Reg-2**	**Reg-3**	**Reg-4**	**Reg-5**	**Reg-6**	**Reg-7**
Absolute net income	0,000	0,000	0,000	0,000	0,000	0,000	0,000
Operating cash flow	0,000***	0,000***	0,000***	0,000***	0,000***	0,000***	0,000***
Negative income dummy	-1,341***	-1,341***	-1,345***	-1,360***	-1,363***	-1,403***	-1,345***
Debts	0,000*	0,000*	0,000*	0,000*	0,000*	0,000	0,000
Log total assets	1,000***	0,995***	1,083***	1,017***	1,056***	1,609***	1,008***
Sum of SRP	---	0,003	---	---	---	---	---
Receivables SRP	---	---	0,000	---	---	---	---
Income SRP	---	---	---	0,000	---	---	---
Debts SRP	---	---	---	---	0,000	---	---
Purchases SRP	---	---	---	---	---	0,000**	--
Expenses SRP	---	---	---	---	---	---	0,000
-2 log likelihood	523,849	523,830	522,101	523,553	521,524	517,637	523,794
Negelkerke-R^2	26,6%	26,6%	27,0%	26,6%	27,1%	28,0%	26,6%

Notes: *, **, *** significant at alpha consecutively of 10%, 5%, and 1%.

1.4 Capital Markets

FURTHER EVIDENCE FROM EMERGING CAPITAL MARKETS THAT BOTH FIRM-SPECIFIC AND MARKET-WIDE REGIME SHIFTING BEHAVIOR APPROACH EXPLAINS ASYMMETRIC PRICE REACTION

Abstract

This study investigates if the market reacts asymmetrically to earnings shocks and if both firm-specific and market-wide regime shifting behavior approaches explain the asymmetric price reaction. Using data from three emerging stock markets—Indonesia, Kuala Lumpur, and Manila Stock Exchanges—for the period of 2002-2007, this study finds that stock prices react asymmetrically to earnings shocks. It also finds that both firm-specific and market-wide approach explains the asymmetric responses. These findings are consistent with those from well-developed capital markets.

Keywords: *earnings shocks, asymmetric reaction, firm-specific approach, market-wide regime shifting behavior approach*

1. Introduction

Earnings shocks—defined as the difference between actual earnings and expected earnings—have been posited to affect firms' stock prices in a positive direction. That is, positive (negative) earnings shocks will lead to a positive (negative) price reaction. The magnitude of the reaction, however, differs significantly. That is, the magnitude of reaction to positive earnings shocks is different from that to negative earnings shocks (Skinner & Sloan, 2002; Lopez & Rees, 2001; Conrad, Cornel & Landsman, 2002).

Two different approaches—firm-specific as well as market-wide regime shifting behavior—are commonly used to analyze the asymmetric reaction. Proponents of firm-specific approach argue that the asymmetric phenomena result from an inefficient stock pricing. Skinner & Sloan (2002), for instance, find that (i) growing stocks react more excessively to negative than to positive earnings shocks, and (ii) returns of growing stocks differ from those of blue chips ones. Lopez & Rees (2001) find that firms successfully achieving the analysts' prediction have earnings response coefficients of three-fold of those not successfully achieving the prediction. Lopez & Rees (2001) confirm Skinner & Sloan (2002) and Conrad, Cornel & Landsman (2002) that stock prices react more strongly to negative than to positive earnings shocks. The findings suggest that investors are too optimistic about firms' prospects and, as a consequence, they will penalize firms that do not meet their expected earnings.

Proponents of market-wide regime shifting behavior approach (hereafter, MW approach) believe that asymmetric stock price reaction results from economic condition indicated by high or low market levels. A high market level, on one hand, is defined as

periods of profitable stock market and favorable market-wide news. A low market level, on the other hand, is defined as the periods of unprofitable stock market and unfavorable market-wide news. Conrad, Cornel & Landsman (2002) find that asymmetric stock price reaction to earnings shocks are more pronounced at the high market level. That is, the stock price reaction to negative earnings shocks is stronger at the high market level than at the low market level. This finding is consistent with the systemic shift in investors' sentiment. Namely, when the market level is high, for instance, investors are optimistic in that they expect positive earnings shocks from all firms in the market, not merely from firm-specific. This finding is consistent with MW approach (David, 1997; Veronesi, 1999) and implies that investors feel unsecured about the market condition so that they have to predict the market condition using information from the past.

Both firm-specific and MW approach adequately explains the asymmetric behavior of stock price reaction in well-developed capital markets. Both approaches, however, lack empirical evidence from emerging capital markets. Do both approaches explain the asymmetric behavior of stock price responses in emerging capital markets? This study is designed to answer the questions. Such a study is very important for the following reasons.

First, previous studies in advanced capital markets show mix findings. Some studies show a stronger reaction on positive ES, while others find a stronger reaction on negative ES. In emerging capital markets the magnitude of price fluctuations might be greater than that in advanced markets because stock prices might not reflect firms' fundamental values (Bhattacharya et al., 2000). Second, the impact of earnings announcements in emerging capital markets might not be as strong as that in advanced markets. The reason is that investors in emerging markets are accustomed to a high price volatility so that they do not inteliggently respond to good news as do investors in advance markets. Third, in emerging markets there might be information leakage indicating the existence of insider trading. Therefore, investors have anticipated earnings announcements so that there will be no significant price fluctuations at the announcement date (Huberman & Schwert, 1985).

Fourth, Huberman & Schwert (1985) suggest that there is information leakage in emerging capital markets. Such a leakage is driven by two different types of investors—domestic and foreign investors. They behave differently in gaining stock returns. Domestic investors act to destabilize stock prices (Dvorak, 2005). The proces of destabilzing is driven by their closeness to information sources. Because an information leakage is identified in emerging capital markets, earnings announcements do not positively affect the abnormal returns as well as abnormal trading volume. As a consequence, earnings announcements in emerging capital markets will not convey information contents.

The current study explores whether investors in emerging capital markets react differently to positive and negative earnings shocks. The study contributes to the extant theory of asymmetric behavior by investigating the asymmetric behavior in emerging capital markets and by examining whether the asymmetric behavior results from firm-specific earnings announcements or from market-wide information. Using data from three emerging capital markets—Indonesia, Kuala Lumpur, and Manila Stock Exchanges—from the period of 2002-2007, the study finds that: (i) investors do not react to earnings shocks when the shocks are not separated into positive and negative ones; (ii) when the shocks are separated into positive and negative shocks, data show that investor react to the shocks and that the reaction is stronger to positive than to negative earnings shocks; (iii) both firm-specific and MW approach explains the asymmetric behavior of stock price reaction.

This paper is organized as follows. Section 2 describes theory and hypothesis development, section 3 explains research methods, section 4 analyzes data as well as findings, and section 5 concludes the paper.

2. Theory and Hypothesis Development

Association between Earnings Shocks and Stock Return

Earnings shocks occur when firms' actual earnings announced differ from the investors' or the analysts' predicted earnings (Lakonishok, Shleifer & Vihsny, 1994; Ho & Sequeira, 2007). If firms make adequate earnings, then the recorded net assets increase so that the book values of firms' stocks also increase. Otherwise, if firms suffer from losses, the recorded net assets decrease so that the book values of firms' stock decrease. Therefore, earnings per share should theoretically associate with stock price changes, meaning that whenever earnings shocks occur, the stock price changes in a positive directions. Assuming that investors in emerging capital markets are also rational, we re-test the Basu's (1977) hypothesis that earnings shocks are positively assosicate with stock abnormal returns. The following hypothesis is then proposed.

H$_1$: Investos in emerging capital markets respond postively to earnings shocks.

Asymmetric Reaction to Earnings Shocks

In emerging capital markets, the following characteristics are not uncommon. First, investors are accustomed to high fluctuations in stock prices or abnormal returns. Second, investors often obtain information from inside parties before it is publicly announced, meaning that there is an information leakage (Bhattacharya et al., 2000). Third, there is a tendency thant some investors destabilize stock prices to get excessive returns (Dvoraks, 2005). Fourth, previous studies find that the magnitude of market reaction to positive earnings shocks is

different from that to negative earnings shocks. Some studies find that the magnitude of stock price reaction to positive earnings shocks is larger in comparison to that to negative earnings shocks (Lopez & Rees, 2001; Ho & Sequeira, 2007). Some other studies, however, find that the magnitude of stock price reaction to negative earnings shocks is larger compared to that to positive earnings shocks (Skinner, 1994 and 1997; Soffer, Thiagarajan & Walther, 2000; Conrad, Cornell & Landsman, 2002). Regardless of inconsistent findings, investors are theoretically assumed to be conservative in that they will react more on good news than on bad news (Basu, 1977). Positive earnings shocks, therefore, will lead to stronger reactions than negative earnings shocks will. Assuming that investors in emerging capital markets are conservative, we propose the following hypothesis.

H_2: In emerging capital markets investors' reaction to positive earnings shocks is stonger than that to negative earnings shocks.

Association between Positive Earnings Shocks and Market Level

Stock prices drift would be explained not only by earnings shocks but also by industry growth. Conrad, Cornel & Landsman (2002), for instance, find that stock price increases positively relate to market levels. This finding suggests that the stock price increases (decreases) are driven by industry growth, i.e., the agregate stock price increases in specific industry that result from macroeconomic levels—market-up and market-down.

Both market-up and market-down is indicated by an increase in firms' intrinsic value where the value is measured by price/intrinsic value (P/V). The firms's intrinsic value in this respect could not be determined by price/earnings ratio (P/E). The P/V measure, therefore, is conceptually better than P/E in determining the firms' intrinsic value for reasons that follow. First, it considers firms' growth prospects. Second, it considers firms' cost of capital. In conclusion, use of P/V measure leads to Ohlson's clean surplus theory (Frankel & Lee, 1998; Lee, Myers & Swaminathan, 1999). The P/V measure, as contrast to the P/E measure, is able to reduce the stock overprice. Based on the aforementioned arguments, the following hypothesis is developed.

H_3: In emerging capital markets, the earnings response coefficient of the positive earnings shocks increases along with the P/V market levels.

3. Research Methods

Data and Sample

Samples are drawn from companies listed in three emerging stock markets—Indonesia, Kuala Lumpur, and Manila Stock Exchanges—during the period of 2002-2007. Firms must meet the following criteria to included in the sample: (i) firms operate in manufacturing and financial sectors. Manufacturing sector includes consumptive goods industry, basic and chemical industry, service and investment trading, and others; (ii) firms publish audited financial statement for the period of 2003-2007; and (iii) firms' stocks are actively traded during the period.

Data are taken from OSIRIS Database, Center for Social Study, Universitas Gadjah Mada and consist of daily return data, beta securities correction, and the dates of the earnings statement or financial statements published.

Variables and Measurements
Cumulative Abnormal Return

Cumulative abnormal return (CAR) is the sum of the abnormal returns during the event period. The event period observed in this study is three days period after the dates of the earnings statement. Abnormal return is the difference between the actual return and the predicted return.

$$AR_{i,t} = R_{i,t} - E[R_{i,t}]$$

Notes: $AR_{i,t}$ is the abnormal return of security number-i during the event period t, $R_{i,t}$ is the actual return for the security number-i during the period t, $E[R_{i,t}]$ is the expected return for security number-i during the event period t.

The actual return is the return during the period of t which is the difference between current prices and previous price. Actual return is calculated using the following formula:

$$R_{i,t} = (P_{i,t} - P_{i,t-1})/P_{i,t-1}$$

Notes: $R_{i,t}$ is the return of security i during the period t, $P_{i,t}$ is the market price of the security i during the period t, $P_{i,t-1}$ is the market price of security i during the period $t-1$.

The expected return is calculated using market model. The expected return calculation using market model is conducted within two stages, namely (1) emerging expected model using actual data during estimated periods and (2) using this expected

model to estimate the estimated return during the window periods. The expected model can be developed with the Ordinary Least Square (OLS) regression techniqES using following equation:

$$R_{i,j} = \alpha_i + \beta_i . R_{Mj} + \varepsilon_{i,j}$$

Notes: $R_{i,j}$ is the actual return of the security number-i during estimated period j, α_i is the intercept for the security number-i, β_i is the slope coefficient which is the beta coefficient of the security number-i, R_{Mj} is the market index return during the estimated period j calculated using the formula of $R_{Mj}= (CI_j–CI_{j-1})/CI_{j-1}$, with CI is the Composite Index, $\text{\euro}_{i,j}$ is the residual error of the security number-*i* during the estimated period *j* calculated using market adjusted model.

The next step is the cumulative abnormal return (CAR) calculation using the following formula:

$$CAR_{i,t} = \sum_{a=t3}^{t} AR_{i,a}$$

Notes: $CAR_{i,t}$ is the cumulative abnormal return of the security number-i during the day number-t, which is the accumulated abnormal return (AR) of the security number-i after the event period of (t_{+1}) until t_{+3}, $AR_{i,a}$ is the abnormal return for the security number-i during the day number-a, which begins during t_{+1} (days after event period) until three days of event period (t_{+3}).

Earnings Shocks

According to Ho & Sequeira (2007), earnings shocks are calculated by subtracting forecasted EPS from actual EPS. Then the difference is divided by the closing price during the last day of the trading month before the date of the financial statement published. If the result is positive, the positive earnings shocks occur. Inversely, if the result is negative, then the negative unexpected return occurs.

$$ES = \frac{(AEPS - FEPS)}{P_{t-1}}$$

Notes: ES is the earnings shocks, AEPS is the actual EPS, FEPS is the forecasted EPS.

Size

Consistent with Edward, Benson & Ohlson (1995), Skinner & Sloan (2002), Lopez & Rees (2001), Conrad, Cornel & Landsman (2002), and Ho & SeqESira (2007), this study uses the natural logarithm (ln) of the closing price during the last day of the trading month before the earnings statement, multiplied by the sum of the outstanding stocks in accordance with the financial statement published. This measurement is used as a company size proxy.

The Usage of Market Value Ratio against Intrinsic Value

Conrad, Cornel & Landsman (2002) find that asymmetric reaction of the stock price against positive earnings shocks and negative earnings shocks is affected by economic conditions. The study findings are based on the market level proxy during various economic conditions. High market level is defined as the periods when the economic conditions are profitable and the wide-market news is favorable. Inversely, low market level is defined as the periods when the economic conditions are unprofitable and the wide-market news is unfavorable. To define the market level, Conrad, Cornel & Landsman (2002) used the proxy which is the difference of the ratio of the market price against the current earnings per share (P/E) and the average ratio of the market price against earnings per share during 12 months before.

Unlike Conrad, Cornel & Landsman (2002), the study conducted by Ho & SeqESira (2007) used the ratio of the market price against intrinsic value (P/V) as the proxy of the market level. In this study, Ho & SeqESira state that the P/V usage has a relative predictive ability advantage than P/E as reported by Frankel & Lee (1998). Furthermore, P/V uses more information available about the companies, such as current company value, current expected return on equity (ROE), current return on equity, two years and three years predicted earnings, which serve as the long term company growth prediction. Theoretically, the measure of P/V is better than any other measures. Francis, Olsson & Oswald (2000) find that estimated abnormal earnings is more accurate and able to explain the variability of the equity price better compared to the other variables, such as dividend and free cash flow.

The method used to calculate intrinsic value (*V*) is EBO Residual Income Model. This method has a better capability to calculate the intrinsic value of the stock (Foster, Olsen, & Shevlin, 1984; Bernard & Thomas, 1989, 1990; Chan, Jagadeesh, & Lakonishkok, 1996, 1999). The intrinsic value calculation formula uses EBO model period as described by Frankel & Lee (1998) and Lee, Myers & Swaminathan (1999) as follow.

$$V_{i,t}^2 = B_{i,t} + \frac{B_{i,t}\left(FROE_{i,t+1} - re_{i,t}\right)}{\left(1 + re_{i,t}\right)} + \frac{B_{i,t+1}\left(FROE_{i,t+2} - re_{i,t}\right)}{\left(1 + re_{i,t}\right)^2} \tag{1}$$

At this equation (1), $V^2_{i,t}$ is two estimated EBO periods for the company i during the year of t; $B_{i,t}$ is the par value of each share for the company i during the year t; $re_{i,t}$ is the capital expenditure for the company i during the year t; and $FROE_{i,t+\tau}$ is the annual forecasted ROE for the company i during the year or t during the period $t+\tau$ (during the period $\tau = 1$ until $\tau = 12$).

The input variables required to operate EBO model are forecasted ROE, current par value of each share and predicted value of each share, and company capital expenditure. The forecasted ROE is calculated using the equation 2 as follow.

$$FROE_{t+\tau} = \frac{FEPS_{t+\tau}}{\left(B_{t+\tau-1} + B_{t+\tau-2}\right)/2} \qquad (2)$$

Notes: $FROE_{t+\tau}$ is the forecasted ROE during period $t+\tau$ (during period $\tau = 1$ until $\tau = 2$); $FEPS_{t+\tau}$ is the forecasted EPS during period $t+\tau$ (during notaion $\tau = 1$ until $\tau = 2$); $B_{t+\tau-1}$ is the par value of each share during $t+\tau$ -1; and $B_{t+\tau-2}$ is the par value of each share during $t+\tau$ -2.

The forecasted EPS during period $t+\tau$ is estimated using one-year-ahead ($FEPS_{t+1}$) and two-year-ahead ($FEPS_{t+2}$). The book value used in the EBO model is calculated using equation (3) as follow.

$$B_{i,t+\tau} = B_{i,t+\tau-1}\left(1 + FROE_{i,t+\tau}\left(1 - k\right)\right) \qquad (3)$$

Notes: $B_{i,t+\tau}$ is the book value for the company i during the year $t+\tau$ (for $\tau=0$ until $\tau=1$); $FROE_{i,t+\tau}$ is the forecasted ROE for the company i during the year $t+\tau$ (for $\tau=0$ until $\tau=1$); and k is dividend payment ratio. Because the dividend payment ratio is the percentage of net income paid in the dividend, estimation for certain company in k is calculated by dividing the cash dividend paid during the last year with the net income (EPS multiplied by outstanding share).

Lee, Myers, & Swaminathan (1999) find that the inclusion of interest rate of various time, especially short term interest rate, can increase the V predictive power to predict stock return. Consistent with Lee, Myers, & Swaminathan (1999), this study uses a capital expenditure for certain company to calculate V using equation (4) as follow.

$$E(re_{i,t}) = r_{f,t} + \beta_{i,t}(RP) \qquad (4)$$

Notes: $E(re_{i,t})$ is the expected capital expenditure for the company i during the year t; $\beta_{i,t}$ is the beta for the company i during the year t; and RP is the market risk premium. Even though the V is sensitive against interest rate selection, Lee, Myers, & Swaminathan (1999) find that the effect of market risk premium selection against the V performance can be ignored.

Market Level

The market price ratio between the stock against and intrinsic value (P/V) is used as the market level proxy. Intrinsic value is calculated using Residual Income Model (RIM) approach from Edward, Benson & Ohlson (1995). After the intrinsic value of each stock is calculated, the next step is the calculation of market P/V ratio for each period using the following formula.

$$P\!/\!V_t (market) = \frac{\sum_{i=N_t}[P_{i,t}/E_t(V_i)]}{N_t} \qquad (5)$$

where $P_{i,t}$ is the market price of the stock for the company i during period t; $E_t(V_i)$ is the estimated intrinsic value for the company i during the period t calculated using EBO model; and N_t is the total sum for all companies during the period t. From the all observation periods, the period that have the lowest value of P/V ratio is considered as the low market level, whereas the period that have the highest value of P/V ratio is considered as the high market level.

Hypothesis Testing

Ho & Sequeira (2007) states that the stock price elasticity is measured generally using earnings reaction coefficient. Earning reaction coefficient is acquired from the regression of excess return against earnings shocks for each company. At the following regression equation, the earnings reaction coefficient is the value of nilai a_1.

$$CAR_{it} = a_0 + a_1 ES_{it} + a_2 SIZE_{it} + \sum_{j=1}^{j-1} a_{2+j} DUM\_Ind_{it} + \varepsilon_{it} \qquad (R1)$$

To show the asymmetric reaction against earnings shocks, two indicator variables are added to the regression equation, namely (1) *up,* which is valued as one for positive earnings

shocks and the others are valued as zero; (2) *down,* which is valued as one for negative earnings shocks and the others are valued as zero. The asymmetric impact can be shown using the following second regression equation with b_1 and b_2 which each describes the positive and negative earnings shocks coefficient.

$$CAR_{it} = b_0 + b_1 ES \times UP_{it} + b_2 ES \times DOWN_{it} + b_3 SIZE_{it} + \sum_{j=1}^{j-1} b_{2+j} DUM\_Ind_{it} + \varepsilon_{it} \qquad (R2)$$

At those (R1) and (R2) equations, CAR_{it} is the sum of excess return during three days before and after the date of the earnings statement announced, ES_{it} is the earnings shocks calculated by subtracting actual EPS with forecasted EPS, then divide the result with the closing price during the last trading day at the last month before the earnings statement, $SIZE_{it}$ is the natural logarithm of the market price of the stock during the month before the earnings statement multiplied by the sum of the outstanding stock in accordance with the financial statement published. The market price used in this calculation is the closing price during the last trading day at the last month before the statement issued. $ES \times UP_{it}$ is the product of *ES* and indicator variable *UP*; and $ES \times DOWN_{it}$ is the product of *ES* and indicator variable *DOWN*. An indicator variable named DUM_Ind_{it} is a dummy variable added into the (R1) and (R2) equations to control the impact of industrial sector, which *j* described the three industrial sectors analyzed. Each value of *j*, DUM_Ind_{it} are equal to one when the company is within *j* industrial sector and zero if otherwise. All of the regression equations are estimated among *j-1* industrial sector to avoid dummy variable trap (Gudjarati, 2003), with the formulation as follow.

$$CAR_{it} = b_0 + \tilde{b}_1(ES_{it} \times UP + ES_{it} \times DOWN) + \tilde{b}_2 ES \times DOWN_{it} + b_3 SIZE_{it} + \sum_{j=1}^{j-1} b_{2+j} DUM\_Ind_{it} + \varepsilon_{it} \quad (R3)$$

4. Data Analysis

This study assumes that investors in emerging market forecast future companies' earnings. They, then, evaluate whether the actual companies' earnings meet their expectation. If the actual earnings exceed (do not meet) their expected earnings, then positive (negative) ES occurs. It is rationally expected that the stock price will rise up (go down) if the earnings shocks are positive (negative).

Descriptive Statistics

This study uses three emerging stock markets. i.e., Indonesia, Malaysia, and the Phillipines. Initially, this study collects 1,170 firm-year samples. Due to data incompleteness, this study finally uses 413 firm-year samples. The incompleteness is mainly due to the abscence of earnings announcements (211 firm-years), firms' outstanding shares for the last two years (184 firm-years), closing price during the two last year (126 firm-years), earnings per share during four year observations (185 firm-years), and others (51 firm-years). Table 1 shows descriptive statistics of CAR, UE, size and P/V for full sample.

Table 1 shows descriptive statistics of CAR, ES, size and P/V for full sample. The table also divides samples into positive and negative ESs. In the other perspective, this table classifies the samples between manufacturing, and banking and financial industries. The CAR is the cumulative abnormal return during three days after the date of earnings announcement. The mean of CAR for full sample equals 0.0038 and its standard deviation equals 0.1747. The mean of ES for full sample equals to 50.2882 with standard deviation as 600.9468. The samples that have ES less than zero (ES < 0) has mean of CAR which equals 0.0157 and standard deviation equals 0.1303. Meanwhile, the mean of ES equals -69.1225 with standard deviation equals 236.5798. Otherwise, the sample with ES greater than zero (ES > 0) has mean of CAR which equals 0.0020 and standard deviation equals 0.1879. The mean of ES equals 118.3174 with standard deviation equals 725.1118. The sample of manufacturing industry has mean of CAR which equals 0.0061 and standard deviation equals 0.1782. The mean of ES equals 56.0899 with standard deviation equals 626.6493. The sample of banking and finance industry has the mean of CAR which equals -0.0206 and standard deviation equals 0.1314. The mean of ES equals -10.4681 with standard deviation equals 168.3254.

The descriptive statistics show relatively similar to studies by Ho & Sequeira (2007), Conrad, Cornel & Landsman (2002) and other similar studies conducted by O'Brien (1998); Kang, O'Brien & Sivaramakrishna (1994). These studies show negative signs for ES that is less than zero and positive signs for ES that is greater than zero. These results indicate that the analysis' forecast is mostly optimistic. The table also deduces that negative ES is responded in greater magnitude in comparison with positive ES, showed by greater CAR which equals 0.0157 for negative ES compared to the CAR of positive ES which equals 0.0020. Meanwhile, the sample with negative ES has absolute ES which equals 69.1225, compared to the positive ES which has absolute ES of 118.3174.

Insert Table 1 about here

Firm Specific Model Examination

The first model examination is conducted by regressing full sample into the first regression model. The result of this regression is showed in Table 2 as follows. The result shows that ES has negative value which equals 0.0000 (t-value: 0.3528) which is statistically insignificant. For the sample of manufacturing industry, the association between ES and CAR equals 0.0000 (0.3676) which are also statistically insignificant. The result indicates that positive or negative ES is not associated with CAR. Therefore, hypothesis H1 that states "ES is positively associated with abnormal stock return" is not supported. Similarly, for the sample of banking and financial industry, the earnings response coefficient equals 0.0000 (0.9233) which is statistically insignificant. Meanwhile, the examination result for control variable shows that size is associated positively and significantly with CAR. For full sample, this association has positive slope coefficient of 0.0083 (2.3250) and for manufacturing sample, this association has positive slope coefficient of 0.0077 (1.9988). Both coefficients are statistically significant at level of 5%. This result is inconsistent with the result of study conducted by Ho & Sequeira (2007) who find that both positive and the negative earnings shocks have positive and significant association with abnormal stock returns.

Insert Table 2 about here

With the absence of the association between ES and CAR examined by firm specific model in this first regression model, this study continued to examine all samples with the second and third regression models. The examination results are shown in Table 3 as follows.

Insert Table 3 about here

This table shows that the abnormal return reaction for positive ES is significantly greater than negative ES. This result is marked by the value of b_1-b_2 which equals 0,0001

with *t-value* (b_2 is unequal to zero) of 269.316 which is significant at level of 1%. This result is in accordance with the finding by Ho & Sequeira (2007) and Lopez & Rees (2001) who find that the earnings response magnitude of positive ES is greater than negative ES. Another study conducted by Conrad, Cornel & Landsman (2002) find different result. They find that the earnings response reaction of negative ES is greater than positive ES. The difference of value of the reaction coefficient between positive ES and negative ES indicates that the hypothesis H2 is supported. Therefore, this study concluded that the association between ES and CAR is different for the companies that have positive ES in comparison with the companies that have negative ES.

Table 3 also indicates that the earnings response reaction for positive ES is significantly greater than the reaction for negative ES. This result is consistent with manufacturing industry sample having the value of b_1-b_2 which equals 0,0001 with *t-value* (b_2 is unequal to zero) of 231.374 which is significant at level of 1%. Therefore, this study supports the firm specific approach. Previous study related to firm-specific is Skinner & Sloan (2001) who find that the earnings response reaction for negative ES is significantly greater than positive ES. Another study conducted by Lopez & Rees (2001) which also applying firm-specific model find that the earnings reaction for the company achieved predicted analysis (positive ES) is greater than the company failed to achieve predicted analysis (negative ES). Both Skinner (2001) & Sloan and Lopez & Rees (2001) agree that the magnitude of stock price reaction is stronger for negative ES than positive ES. They suggested that investors' irrationalities who are too optimistic to estimate about future company earnings cause the moment. It is also concluded that they make greater reaction against stock price whenever their expectations is failed.

The regression result per industry sector shows that the reaction against CAR for the companies exceeding investors' prediction (positive ES) is higher coefficients compared to the companies failed to achieve investors' prediction (negative ES). This study finds that the reaction coefficient of positive ES is significantly greater than negative ES. This result is consistent for all industry sectors investigated. Therefore, the firm-specific approach is supported.

Market-Wide Regime Shifting Behavior Examination

Before examining the market-wide regime shifting behavior, the market level differentiation is conducted. This study constructs the data sample by dividing into several portfolios based on P/V value. This study divides classified-random portfolio based on the percentile of P/V per 10%, and below and above the mean of P/V. Table 4 shows the P/V value limitations presented as follows.

Insert Table 4 about here

To examine the market-wide regime shifting behavior approach, this study regresses the sample data according to the market level portfolios. The regression used the second and the third regression models. Table 5 shows the result. It shows that the coefficient of positive ES for each market level at portfolio percentile of 0-10%, 20-30%, 30-40%, 40-50%, 50-60%, 60-70%, below the mean and above the mean is bigger than negative ES. Meanwhile, other results do not show the difference between positive and negative ESs which is statistically significant. However, the examination with greater frequency shows greater earnings response coefficient for the positive ES.

Insert Table 5 about here

The examination result shows that the stock price reaction against positive ES is greater compared to negative ES which is statistically significant. For P/V percentile of 0-10%, the difference of b_1-b_2 equals 0.0003 with t-value of 3.5323 that is significant at level of 1%. This result rises up as the P/V percentile. Percentile of 20-30% has the difference of b_1-b_2 which equals 0.0002 (t-value: 3.3268) which is significant at level of 1%, P/V percentile of 30-40% has the difference of b_1-b_2 which equals 0.0001 (10.4952) which is significant at level of 1%, P/V percentile of 40-50% has the difference of b_1-b_2 which equals 0.0000 (4.8859) which is significant at level of 1%, and it is sill rising up until P/V percentile of 50-60%. Below the mean and above the mean examinations show similar result, that is the difference of b_1-b_2 increases from 0.0002 (15.2467) to 0.0006 (21.1350) which is significant at level of 1%. The increase of market level is shown by the greater response coefficient for above the mean portfolio in comparison to below the mean portfolio. This means that the higher level P/V shows greater stock price reaction.

Based on these findings, different market level shows different reaction against positive ES and negative ES. Therefore, this study suggests that the price and intrinsic companies' value ratio could capture the market level. In other words, hypothesis 3 could be supported that the earnings response coefficient of positive ES rises up as the market level increases. This result is not consistent with the study conducted by Ho & Sequeira (2007)

and Lopez & Rees (2001) who find that the reaction coefficient against positive or negative ESs do not rise up as the market level. Therefore, this study formulate that the market-wide regime shifting behavior approach could be supported.

Findings and Limitations

First of all, this study finds that empirical evidence does not support the hypothesis stating that earnings shocks associate with abnormal returns. This study then divides the earnings shocks into positive and negative shocks and tests whether the diffeent types of shocks associate with abnormal returns. Empirical evidence shows that positive earnings shocks affect abnormal return greater than do negative earnings shocks. This result implies that the firm specific model hypothesis is supported. Therefore, this study concludes that the stock price growth becomes more positive when positive earnings shocks occurred in comparison with negative earnings shocks (Ho & SeqESira, 2007; Lopez & Rees, 2001, and Nwaese, 2000).

The stock price reaction against positive ES increases as the market level increase marked by P/V level. The stock portfolio with higher P/V level is reacted greater. The measurement of this response coefficients are shown even more for positive ES compared to negative ES. Therefore, this study concludes that the market wide regime shifting behavior approach is also supported (Ho & SeqESira, 2007; Lopez & Rees, 2001, and Nwaese, 2000). Inversely, this study rejects the higher stock price reaction against negative ES compared to positive ES (Skinner & Sloan, 2001; Conrad, Cornel & Landsman, 2002; O'Brien, 1998); Kang, O'Brien & Sivaramakrishna, 1994).

This study finds that magnitude of stock price reaction does not only reacts dominantly against positive ES, but does not also react negatively against negative ES. The examination result using first, second and third regression models did not show the reaction against positive ES. Therefore, earnings announcements do not give positive sign to the investors at the emerging stock market. The market drift at emerging capital market is not supported by the earnings announcement, but more affected by the condition of the capital market itself. The stock market condition represented by P/V level, which is actually also P/E level, is more able to show the movement of stock market determined by the market sentiment at the point of companies valuation. Therefore, this study suggests that the investors' aggregate belief to the fundamental value of company by company is able to drift the stock price at emerging market. Thus, the determinant factors lies more on intrinsic values of the company (Frankel & Lee, 1998; Lee, Myers & Swaminathan, 1999; Francis, Olsson & Oswald, 2000; Foster, Olsen, & Shevlin, 1984; Bernard & Thomas, 1989, 1990; Chan, Jagadeesh, & Lakonishkok, 1996, 1999).

The last finding, this study suspects the possibility of information leakage of earnings announcement. This suspicion comes from the result of the first examination that the association of CAR and ES is not proven. The measure of abnormal return which is statistically insignificant during t_{+1} until t_{+3} shows that earnings announcement have been possibly previously responded by the investors. Therefore, the investors' expectation against future earnings becomes excessive compared to the abnormal return. This excessive expectation affects the variance of future expected earning and the variance of abnormal return which moves in imbalance. This condition also shows the tendency of market inefficiency that does also affects the absence of information content in every earnings announcements. Other study shows equally to prove that earnings news announcements are not really an event. The proposed reason is the possibility of the stock market in inefficient form implied that the stock prices are not always associated with the companies' intrinsic value (Bhattacharya et al., 2000). Furthermore, the new news announcements have been completely anticipated during the previous periods (Huberman & Schwert, 1985).

This study has various limitations that compromise its ability to predict and explain accurately. *First*, the limits of available sample observed and the observed short-period. This occurs because the exclusion a lots of data due to incompleteness. This incompleteness is mainly due to the absence of earnings announcements, firms' outstanding shares for the last two years, and closing price during one last year. Considering this limitation, it is necessary for further studies to obtain more samples and for longer period so that the result becomes more valid.

Second, the EPS and ROE forecast are statistically manipulated. This forecast could be different whenever compared to the US stock market, where analysts do the forecast. Therefore, the forecast in this study can be considered to be too rough. *Third*, the study window width within this study equalizes with the earnings shocks study at the advanced stock market. The window width selected in this study is three days from t_{+1} until t_{+3}. The consequences of this window selection may ignore any other information having effect against abnormal return. The examination employing intraday data should be more able to answer the earnings announcements drift within the minute or hour period.

Forth, market level measured by the formula of P/V_t which is a new approach is still need to be considered more deeply. This proxy serves as a replacement of price and earnings ratio (P/E ratio). The reason to apply the above formula is that the validity of V_t value which also serves as the indicator of company's intrinsic value. The classification of market level based on free-random portfolio should make better result for the market level examination. Similarly, future study could identify company classifications that are able to derive the better conclusion than this study. Market level should be formulated with the

consideration of the actual market condition by investigating the market condition whether it is during market-up or market-down. ***Finally***, the result inferred from this study is still not able to answer the investors' interests who observe directly the current condition of emerging market. The investors' interests could only be answered and whether the stock market performance is explained by some similar study within longer duration.

5. Conclusion

Assuming that investors in emerging stock markets forecast company's future earnings, this study concludes that their forecasts are too optimistic. It is highlighted by earnings shocks (ES) that have positive values. This study shows that there is no positively significant association between earnings shocks and the stock price reactions indicated by CAR. The association indicates that the stock price does not react to the information signs, either positive or negative earnings shocks moments. This might be results from information leakage occurring in emerging stock markets of Indonesia, Malaysia, and Philippines.

This study supports the firm specific model hypothesis stating that the association between ES and CAR is different between companies with positive ES and those with negative ES. This is shown by the stronger coefficient of stock price change moment caused by positive earnings shocks is greater than the one caused by negative earnings shocks. This result is consistent with and dominantly documented for all observed industrial sectors, so that firm-specific approach is empirically supported and could be applied in emerging stock markets.

The examination result indicates that market-wide regime shifting behavior approach is also empirically supported for emerging stock markets. The market level examination also shows difference in the reaction to positive ES and negative ES. It could be concluded that the measurement of market reaction movement captures the market level. The market-wide regime hypothesis is supported because the coefficient of positive ES reaction increases as the market level increases. This result is inconsistent with that of previous studies.

Finally, this study finds that earnings announcements do not give positive sign or good news to the investors in emerging stock markets. The stock price drift in emerging capital market is not supported by the earnings announcement sign, but it is more affected by the condition of the market itself. The condition of stock market refers to the investors' belief to the overall company intrinsic value. Therefore, this study suspects the possibility of information leakage on every earnings announcement. Earnings announcements have been responded previously by the investors in emerging capital markets before the date of the announcement. This condition also suggests the markets are inefficient tendency and the absence of informational content on every earnings announcement. The explanation of this occurrence shows equally that the earnings announcements are not really an event. It is

probably caused by the new news announcements that have been fully anticipated or because of the existence of insider trading in emerging capital markets.

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Tables
Table 1 Descriptive Statistics

	Variable	Mean	Min.	Max.	Std. Dev.
Full Sample	CAR	0.0038	-1.6272	0.7147	0.1747
N = 413	ES	50.2882	-2,073.4000	9,460.3800	600.9468
	Size	20.1320	10.9700	26.5900	2.4934
	P/V	36.0667	-4,146.9543	2,184.7668	245.1412
ES < 0	CAR	0.0157	-0.4918	0.7147	0.1303
N = 148	ES	-69.1225	-2,073.4000	-0.0200	236.5798
	Size	20.0397	10.9700	24.5100	2.2913
	P/V	4.8894	-4,146.9543	246.2230	345.5154
ES > 0	CAR	0.0020	-1.6272	0.5948	0.1879
N = 262	ES	118.3174	0.0100	9,460.3800	725.1118
	Size	20.2486	11.2400	26.5900	2.5391
	P/V	52.8885	-716.3650	2,184.7668	163.3582
Manufacturing	CAR	0.0061	-1.6272	0.7147	0.1782
N = 377	ES	56.0899	-2,073.4000	9,460.3800	626.6493
	Size	19.9240	10.9700	26.5900	2.3931
	P/V	37.3185	-4,146.9543	2,184.7668	256.5530
Banking and Finance	CAR	-0.0206	-0.6722	0.2438	0.1314
N = 36	ES	-10.4681	-919.1800	167.9500	168.3254
	Size	22.3100	17.5400	25.9100	2.5127
	P/V	22.9575	6.4934	48.7791	10.5813

Table 2 The result of the first regression model examination

$$CAR_{it} = a_0 + a_1 ES_{it} + a_2 SIZE_{it} + \sum_{j=1}^{j-1} a_{2+j} DUM\_Ind_{it} + \varepsilon_{it} ....(R1)$$

a_0 (t-value)	a_1 (t-value)	a_2 (t-value)	$a_{2+j=1}$ (t-value)	R^2 (F-value)	N
Full sample:					
-0.2059	0.0000	0.0083	0.0474	0.017	
(-2.4297)**	(-0.9302)	(2.3250)**	(1.5052)	(2.317)*	412
Manufacturing:					
-0.1456	0.0000	0.0077	-	0.012	
(-1.8953)*	(0.9021)	(1.9988)**	-	(2.359)*	377
Banking & Finance:					
-0.3461	0.0000	0.0146	-	0.078	
(-1.7643)*	(-0.0970)	(1.6684)	-	(1.403)	36

Note: * significant at level of 10%; ** significant at level of 5%; *** significant at level of 1%

Table 3 The result of firm specific model

$$CAR_{it} = b_0 + b_1 ES \times UP_{it} + b_2 ES \times DOWN_{it} + b_3 SIZE_{it} + \sum_{j=1}^{j-1} b_{2+j} DUM\_Ind_{it} + \varepsilon_{it} ....(R2)$$

$$CAR_{it} = b_0 + \tilde{b}_1 (ES_{it} \times UP + ES_{it} \times DOWN) + \tilde{b}_2 ES \times DOWN_{it} + b_3 SIZE_{it} + \sum_{j=1}^{j-1} b_{2+j} DUM\_Ind_{it} + \varepsilon_{it} ....(R3)$$

b_0 (t-value)	b_1 (t-value)	b_2 (t-value)	b_3 (t-value)	$b_{2+j=1}$ (t-value)	R^2 (F-value)	$b_1 - b_2$ (t-value)¤	N
Full sample:							
-0.2024	0.0000	-0.0001	0.0080	0.0479	0.024	0.0001	
(-2.3937)**	(-0.4415)	(-1.9108)*	(2.2316)**	(1.5231)	(2.501)**	(269.316)***	413
Manufacturing:							
-0.1428	0.0000	-0.0001	0.0074	-	0.021	0.0001	
(-1.8643)*	(-0.4286)	(-1.9334)*	(1.9258)*	-	(2.629)**	(231.374)***	377
Banking & Finance:							
-0.3591	-0.0001	0.0000	0.0153	-	0.079	-0.0001	
(-1.6463)	(-0.1638)	(-0.0319)	(1.5131)	-	(0.915)	(-3.0842)***	36

Note: * significant at level of 10%; ** significant at level of 5%; *** significant at level of 1%; ¤ *t-value* is based on examination of H_0: $\tilde{b}_2 = 0$ and H_A: $\tilde{b}_2 < 0$ on the third regression model

Table 4 P/V Market Level

Portfolio	P/V Value	Portfolio	P/V Value
Percentile 10%	7.7141	Percentile 60%	33.0537
Percentile 20%	11.2999	Percentile 70%	41.6194
Percentile 30%	14.8896	Percentile 80%	58.9126
Percentile 40%	19.6297	Percentile 90%	101.6163
Percentile 50%	26.0627	Mean	36.0667

Table 5 The result of market-wide hypothesis examination

$$CAR_{it} = b_0 + b_1 ES \times UP_{it} + b_2 ES \times DOWN_{it} + b_3 SIZE_{it} + \sum_{j=1}^{j-1} b_{2+j} DUM\_Ind_{it} + \varepsilon_{it} \ldots\ldots\ldots(R2)$$

$$CAR_{it} = b_0 + \tilde{b}_1(ES_{it} \times UP + ES_{it} \times DOWN) + \tilde{b}_2 ES \times DOWN_{it} + b_3 SIZE_{it} + \sum_{j=1}^{j-1} b_{2+j} DUM\_Ind_{it} + \varepsilon_{it} \ldots\ldots(R3)$$

b_0 (t-value)	b_1 (t-value)	b_2 (t-value)	b_3 (t-value)	$b_{2+j=1}$ (t-value)	R^2 (F-value)	$b_1 - b_2$ (t-value)¤	N
Percentile 0%-10%:							
0.6373	0.0003	0.0000	-0.0314	0.0017	0.083	0.0003	
(1.7469)*	(0.3778)	(-0.2046)*	(-1.8012)*	(0.0085)	(0.841)	(3.5323)***	42
Percentile 10%-20%:							
0.2584	0.0004	-0.0010	-0.0157	0.0394	0.115	0.0014	
(0.9886)	(1.1241)	(-1.1717)	(-1.2960)	(0.5837)	(1.172)	(1.2217)	41
Percentile 20%-30%:							
0.4763	0.0001	-0.0001	-0.0250	0.0193	0.183	0.0002	
(2.4021)**	(0.3518)	(-0.2871)	(-2.6584)**	(0.2933)	(2.012)	(3.3268)***	41
Percentile 30%-40%:							
0.4552	0.0001	0.0000	-0.0188	-0.0767	0.238	0.0001	
(3.3908)***	(0.5554)	(-0.1365)	(-3.1981)***	(-2.6108)***	(2.808)**	(10.4952)***	41
Percentile 40%-50%:							
-1.3984	0.0000	0.0000	0.0613	0.1724	0.210	0.0000	
(-3.0516)***	(0.2047)	(-0.0224)	(3.0907)***	(1.3879)	(2.460)*	(4.8859)***	42
Percentile 50%-60%:							
-0.1760	0.0000	-0.0001	0.0003	0.1899	0.244	0.0002	
(-0.8045)	(-0.2773)	(-2.1598)**	(0.0345)	(2.3625)**	(2.901)**	(8.9981)***	41
Percentile 60%-70%:							
-0.8160	0.0001	-0.0001	0.0335	0.0851	0.239	0.0002	
(-2.9897)***	(0.4695)	(-0.3809)	(3.0850)***	(0.8802)	(2.823)**	(1.8008)*	41
Percentile 70%-80%:							
0.2765	-0.0006	0.0000	-0.0108	-0.0179	0.037	-0.0006	
(0.8504)	(-0.5042)	(-0.0071)	(-0.8269)	(-0.1582)	(0.349)	(0.9827)	41
Percentile 80%-90%:							
-0.9270	0.0000	-0.0002	0.0438	-	0.272	0.0002	
(-3.7750)***	(-0.4952)	(-0.0997)	(3.6527)***	-	(4.611)***	(0.5847)	41
Percentile 90%-100%:							
-0.2234	-0.0001	-0.0100	0.0106		0.092	0.0090	
(-1.6065)	(-0.6352)	(-0.9158)	(1.5871)	-	(1.228)	(0.6921)	41
Below the mean:							
-0.0696	0.0000	-0.0001	0.0018	0.0456	0.019	0.0002	
(-0.6017)	(-0.0489)	(-1.8280)	(0.3499)	(1.2936)	(1.290)	(15.2647)***	269
Above the mean:							
-0.4457	0.0000	-0.0005	0.0179	0.0646	0.080	0.0006	
(-2.8607)**	(-0.6873)	(-0.8037)	(3.3204)***	(0.7580)	(3.020)**	(21.1350)***	144

Note: * significant at level of 10%; ** significant at level of 5%; *** significant at level of 1%; ¤ *t-value* is based on examination of H_0: $\tilde{b}_2 = 0$ and H_A: $\tilde{b}_2 < 0$ on the third regression model

HAVE THE ECONOMIC EFFECTS OF JAPANESE CORPORATE MERGERS CHANGED?

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Abstract

Since the late 1990s, the number of Mergers and Acquisitions (M&A) increased rapidly in Japan. One large reason for the wake for M&A wave can be attributed to a series of revision on commercial code, antitrust law and accounting systems. These institutional changes encouraged Japanese firms facing a long economic recession and increased market competition to reorganize business through M&A.

The purpose of this paper is to investigate whether the economic effects of mergers have changed since the M&A related institutional revision started in Japan. By comparing the stock price reaction and financial performance of 73 merger cases conducted from 1986 to 1999 and 72 merger cases conducted from 2000 to 2004, we investigate whether the effects of mergers have changed between the two periods. We also try to contribute to this literature by investigating the relation between stock price reaction at merger announcement and post merger financial performance.

Our main findings are summarized as follows. First, contrary to positive cumulative abnormal returns for both acquiring and target firms from 2000 to 2004, cumulative abnormal returns for acquiring and target firms during 1984 to1999 were at best zero or negative. Second, mergers conducted from 2000 to 2004 caused negative impact on ROE and sales growth rate while merger conducted from 1986 to 1999 had no impact on financial performance. Third, we did not find evidence to support any specific relation between market reaction and financial performance changes during the 1986 to 1999 period. On the other hand, when we focus on mergers conducted from 2000 to 2004, we find evidence to support negative relation between stock return and change in ROE.

Key Words: Corporate merger, Market Reactions, Financial Performance

1. Introduction

It is well known that Japanese corporate culture and business practices have long made the market for corporate merger and acquisition (M&A) small. For example, the practice of inter-corporate shareholdings made the market for takeovers nonexistent. Most of the mergers in Japan were 'rescue oriented merger' that it occurred when financially distressed company needs to be bailed out by financially sound one.

But this picture has changed since the late 1990s and the number of M&A increased rapidly in Japan. Because of long economic recession and increased market competition, Japanese companies faced a sharp downturn in profitability. To overcome this situation, companies tried to reorganize business through M&A. Also, a series of revision on commercial code, antitrust law and accounting system supported firms to facilitate business restructuring though M&A. Due to this wake for M&A wave, the economic effect of M&A receives greater attention ever before in Japan.

The purpose of this paper is to investigate whether the economic effects of mergers have changed since the M&A related institutional revision started in Japan. By comparing the stock price reaction and financial performance of 73 merger cases conducted from 1986 to 1999 and 72 merger cases conducted from 2000 to 2004, we investigate whether the effects of mergers have changed between the two periods. We also try to contribute to this literature by investigating the relation between stock price reaction at merger announcement and post merger financial performance.

The remainder of the paper is organized as follows. Section 2 reviews prior studies. Section 3 descries the data and methodology. Section 4 presents the main empirical results. Section 5 concludes.

2. Prior studies

To evaluate the economic effect of M&A, prior studies have used two approaches. One approach is to focus on stock returns around the period surrounding the announcement of the transaction. This approach is regarded to be forward looking on the assumption that stock prices are the present value of expected future cash flows. When market regards M&A as value creating transaction, we expect to observe significantly positive abnormal stock returns around the announcement date.

The U.S. evidence shows that target firms' shareholders gain from significantly positive abnormal stock return, while abnormal returns to bidders are at best close to zero or negative (Jensen and Ruback, 1983; Asquith, 1983; Andrade et al., 2001). In short, most of the premiums gained from M&A are attributed to targets' shareholders. The Japanese evidence shows somewhat different picture. Pettway and Yamada (1986) examined abnormal returns from M&A cases in Japan completed between 1977 and 1984. Although both are not statistically significant, target firms' share showed negative (-0.07%) abnormal return, while bidders' share showed positive (+0.82%) abnormal return. Usui (2001), by using M&A cases completed between 1989 and 1999, reported significant[28] positive

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[28] at 10 % significance level

abnormal return for both target (+4.08%) and bidders (+1.62%) shareholders. This evidence is supported by Inoue (2002) which also reported significant[29] positive abnormal return for target (+4.37%) and bidders (+1.51%) shareholders, by using a sample of transactions between 1990 and 2002. These evidences show that while abnormal returns to target and bidders are at best close to zero or negative until the mid 80s, both target and bidders' shareholders receive premium from M&A since the late 1990s in Japan.

Another approach to evaluate the effect of M&A is to compare the reported financial performance before and after M&A. The results of M&A effects on financial performance are mixed. Ravenscraft and Scherer (1989), Herman and Lowenstein (1988) examined earnings performance after takeovers and reported that merged firms have no operating improvements. On the other hand, Smith (1990), Healy et al. (1992) and Cornett and Tehranian (1992) reported an improvement in profitability after merger. The reason for this inconsistency may be due to methodological problems, different sample size and investigation period. However when focusing on Japanese cases, the evidence shows that merging firms' financial performance (profitability and growth) declines after merger (Muramatsu, 1986; Odagiri and Hase,1989).

Evidence from prior research shows that although financial improvements after M&A are not observed, it seems that both target and bidders' shareholders receive premium in Japan. We will try to contribute to this literature by investigating the relation between stock price reaction at merger announcement and post merger financial performance.

3. Research design

3.1 Sample

We collect merger cases of Japanese listed companies that were completed from 1986 to 2004. We used data book published by RECOF Corporation[30] to collect merger cases. Mergers that failed and mergers involving financial institutions (bank, security and

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[29] at 10 % significance level
[30] RECOF Corporation ed. 2008. *Data book about M&A on Japanese firms: 1985-2007*. RECOF Co. (in Japanese)

insurance) were excluded from the sample. This made our sample size to 145 merger cases with a total of 151 target firms.

Because of the institutional and environmental change surrounding M&A, we infer that motivations for and economic effect of merger among Japanese companies have changed. To test this hypothesis, we divided our sample into 2 periods (groups) based on the year when merger was conducted. The first sample group consists of mergers completed from 1986 to 1999 and the second sample group consists of mergers completed from 2000 to 2004.

Panel A in table 3.1 shows the number of mergers completed each year during our sample period. 73 out of 145 merger cases in our sample were conducted from 1986 to 1999 and 72 cases were conducted from 2000 to 2004. We can see from this figure that the number of merger cases increased rapidly after year 2000.

Panel B in table 3.1 shows the industrial distribution of merged firms. Most of the firms merged during 1986 to 1999 belong to commercial business (trading and retail), service, ceramics, electronics, machine, and pulp. On the other hand, most firms merged between 2000 and 2004 belong to commercial business, construction, service, nonferrous metal, and machine.

[Table 3.1 about here]

3.2 Market reactions to the announcement of mergers

To see whether the economic effect of merger changed, we first investigate stock price reaction to the announcement of mergers. We compute abnormal returns occurring between day -10 and day +10 (day 0 is the announcement date) by subtracting the daily return of the market index (TOPIX) from the daily return of each firm. In addition to abnormal returns, we compute cumulative abnormal returns for the three (eleven and twenty-one)

trading days window centered on the date of the announcement of mergers.[31] If shareholders perceive merger as value creating (deteriorating) activity, then positive (negative) abnormal returns will expected to be observed.

The main purpose of the paper is to see whether there are any difference in the economic effect of merger conducted in the period from 1986 to 1999 and the period from 2000 to 2004.[32] If we observe significant mean difference between these two periods, it means that economic effects of merger have changed.

Stock price for each firm and market index (TOPIX) are collected from the Stock Price Data CD-ROM (TOYOKEIZAI Inc.) and the daily Japan financial newspaper.

3.3 Merger effects on financial performance

Next, we investigate financial performance changes from pre to post merger. We use six performance indexes based on financial statement data: return on asset (ROA), return on equity (ROE), operating cash flow (OCF), sales growth rate, cost of goods sold to sales ratio, and labor cost to sales ratio. These ratios are computed as follows.

$$ROA = \frac{(Operating\ income + Investment\ gain + Interest\ and\ dividend\ income)}{Total\ assets\ (average)}$$

$$ROE = \frac{Net\ income}{Equity\ capital\ (average)}$$

$$OCF = \frac{(Operating\ income + Depreciation\ and\ amortization)}{Total\ assets\ (average)}$$

$$Sales\ growth\ rate = \left(\frac{Sales\ for\ current\ year}{Sales\ for\ prior\ year}\right) - 1$$

$$Cost\ of\ goods\ sold\ to\ sales\ ratio = \frac{Cost\ of\ goods\ sold}{Sales}$$

$$Labor\ cost\ to\ sales\ ratio = \frac{Labor\ cost}{Sales}$$

$$Tobin's\ q = \frac{(Total\ liabilities + Market\ value\ of\ equity)}{Total\ assets} \quad \left(Tobin's\ q\ (year\ 0) = 100.\right)$$

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[31] The cumulative abnormal returns are calculated by adding the abnormal returns for the three (eleven and twenty-one) days.

[32] The null hypothesis is that the mean difference of the (cumulative) abnormal returns for the acquiring (target) firms between mergers in the period from 1986 to 1999 and in the period from 2000 to 2004 equal zero.

Because accounting income is affected by accounting policy choice, Healy et al. (1992) argued to use operating cash flow (*OCF*). For this reason we use OCF to measure profitability besides accounting income (*ROA* and *ROE*). We also use *sales growth rate*, *cost of goods sold to sales ratio*, and *labor cost to sales ratio* as a measure for growth and efficiency (cost reduction).

To compare with post merger performance, we develop pre merger performance measure by aggregating targets' financial data to acquiring firms' one. Comparing the post merger performance with this benchmark provides a measure of the change in performance. But, as Healy et al. (1992) notes, some of the difference between pre and post merger could be also due to economy wide and industry factors. To control for these factors, we use industry-adjusted performance measure. This is calculated by subtracting the industry average from the sample firm's performance measure.

After computing the industry-adjusted performances for each merger case, pre merger (years -3 to -1) performance mean are subtracted from the post merger (years +1 to +3) performance mean. To see whether the observed numbers are statistically significant, we conduct a parametric test (t-test).

We also calculate Tobin's q at the end of each accounting period during years 0 to +3. Tobin's q at year 0 will be replaced as 100. Also, the q ratio for years +1 to +3 will be replaced accordingly. Based on these numbers, post merger (years +1 to +3) mean of Tobin's q ratio would be computed. The change in q ratio would be obtained by subtracting 100 from the mean.

We compute mean difference of these performance changes both for mergers conducted in the period from 1986 to 1999 and mergers conducted in the period from 2000 to 2004.[33] If we observe significant mean difference, and conduct the parametric test (t-test), this implies that merger effects have changed between these two periods.

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[33] The null hypothesis is that the mean difference of the merger effects between mergers in the period from 1986 to 1999 and in the period from 2000 to 2004 equal zero.

Firms' financial data are obtained from NEEDS financial database (Nikkei Digital Media, Inc.). Table 3.2 shows the means and standard deviations of financial performance before subtracting the industry average.

[Table 3.2 about here]

3.4 Relation between market reactions and financial performance changes

Finally, we investigate the relation between market reactions and financial performance changes. Our aim here is to see whether there is a significant relation between positive (negative) cumulative abnormal return and positive (negative) financial performance change.

We classify the sample for each group into 2×2 matrix base on stock price reaction and financial performance change. We use each firm's cumulative abnormal return as a surrogate for market reaction and separate the sample based on its sign (positive or negative). Changes in ROA, ROE, OCF, and Tobin's q after merger is used as a measure for financial performance change. These measures are also divided into two groups based on its sign (positive or negative). Chi square test is conducted to see the relation between market reaction and firm performance.[34]

4. Results

4.1 Results of examining market reactions

Table 4.1 shows the results of stock price reactions of acquiring firms. Panel A reports abnormal returns for 11 days (from day -5 to day +5), and Panel B shows cumulative abnormal returns for 3, 11, and 21 days, respectively.

For acquiring firms in the 1986 to 1999 period, abnormal returns for second and third day after the announcement (day +2 and +3) and cumulative abnormal returns for 11 days are significantly negative (the t-statistics shown in table are parentheses). On the whole,

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[34] The null hypothesis is that the market reaction and financial performance changes are independent.

these results imply that market regard mergers conducted in 1986 to 1999 period as value deteriorating.

The signs of abnormal returns for acquiring firms in the 2000 to 2004 period are mixed. Statistically significant positive abnormal returns were observed for day -1 and 0 and negative abnormal return was observed on day +2. Cumulative abnormal return is significantly positive at 10% level. This result is different from the first sample group in that market regarded mergers as value creating.

Mean differences of each period's cumulative abnormal returns for 3 and 11 days are significant at 5% and 10% level. Compared to negative cumulative abnormal returns in the 1984 to 1999 period, those in the 2000 to 2004 period are positive. This implies that investors show more favorable reactions to mergers in the later period than the former ones.

[Table 4.1 about here]

Table 4.2 shows the results of stock price reactions of target firms. In the 1984 to 1999 period, abnormal returns and cumulative abnormal returns of target firms are not statistically significant. On the other hand, for mergers in the period from 2000 to 2004, positive abnormal returns from day -2 to day 0 and negative abnormal return for day +2 are significant. Cumulative abnormal returns for 3 and 21 days are significantly positive at 1% and 10% levels. This result implies that the market as a hole see mergers as value creating.

Mean differences of each period's cumulative abnormal returns for 3 days are significant at 1% level. Compared to negative cumulative abnormal returns in the 1984 to 1999 period, those in the 2000 to 2004 period are positive. This implies that target firms shareholders show more favorable reactions to mergers in the later period than the former period.

[Table 4.2 about here]

4.2 Results of examining financial performances

Table 4.3 shows the effect of merger on financial performance and the difference of those between the two periods. Row (a) and (d) show premerger performance indexes which

were computed by aggregating target and acquiring firm's financial data. Post merger performance indexes are shown in row (b) and (e).

Row (c) and (f) show the impact of merger on financial performance (merger effect) which is computed by subtracting premerger performance index from post merger ones. To control for economy wide and industry factors, these indexes are adjusted by industrial average ratio. Result in row (c) indicates that mergers conducted during 1987 to 1999 did not cause any economic impact on financial performance. On the other hand, row (f) reports that mergers conducted from 2000 to 2004 have negatively impacted ROE and sales growth rate.

Row (g) reports whether the impact of merger on financial performance are different in the two periods. Positive numbers in profitability (ROA, ROE, and OCF) and Sales growth rate mean that mergers conducted in 1986 to 1999 have more positive financial effects than the mergers conducted in 2000 to 2004. Opposite to these performance measure based on financial statement, Tobin's q improved during 2000 to 2004 period.

[Table 4.3 about here]

4.3 Results of examining the relation between market reactions and performance changes

Table 4.4 shows the results of the chi square test which examined the relation between market reactions and financial performance changes. We use each firm's cumulative abnormal return for 3 and 11 days as a surrogate for market reaction and classified the sample based on its sign (positive or negative). The top left cell with "14" means that 14 firms had negative cumulative abnormal return and ROA declined after merger.

Panel A shows that during the 1986 to 1999 period, we did not find evidence to support the relation between market reaction and financial performance changes. When we

focus on mergers conducted during 2000 to 2004 (panel B), we find evidence to support negative relation between cumulative abnormal return and ROE. A possible explanation for this result is that more than 3 years will be needed for financial performance to improve after merger.

<center>[Table 4.4 about here]</center>

5. Conclusion

The purpose of this paper is to investigate whether the economic effects of merger have changed. By comparing the stock price reaction and financial performance of 73 merger cases conducted from 1986 to1999 and 72 merger cases conducted from 2000 to 2004, we investigate whether the effects of merger have changed between the two periods. We also try to investigating the relation between stock price reaction at merger announcement and post merger financial performance.

Our main findings are summarized as follows. First, contrary to positive cumulative abnormal returns for both acquiring and target firms during 2000 to 2004, cumulative abnormal returns for acquiring and target firms during 1984 to 1999 were at best zero or negative.

Second, we did not find evidence to support that mergers conducted during 1986 to 1999 caused any effect on financial performance. However, mergers conducted during 2000 to 2004 caused negative impact on ROE and sales growth rate.

Third, we did not find evidence to support any specific relation between market reaction and financial performance changes during the 1986 to 1999 period. On the other hand, when we focus on mergers conducted during 2000 to 2004, we find evidence to support negative relation between cumulative abnormal return and ROE. A possible explanation for this result might be that more than 3 years will be needed for financial performance to improve after merger or financial performance did not improve as marked expected.

<center>303</center>

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Table 3.1 Sample description

Panel A: Year

1986	1987	1990	1992	1993	1994	1995	1996	1997	1998
1	1	1	5	4	5	6	4	7	14

1999	2000	2001	2002	2003	2004	(1)1986-99	(2)2000-04	Total
25	14	14	14	22	8	73	72	145

Panel B: Industrial distribution of acquiring (target) firms

(1) 1986-1999

Carmaker	3	(1)	Ceramics	6	(6)
Chemistry	4	(5)	Communication	0	(0)
Construction	3	(3)	Electronics	6	(4)
Food	2	(1)	Machine	6	(4)
Manufacture	1	(1)	Medicine	2	(2)
Nonferrous metal	2	(3)	Oil	1	(1)
Precision instrument	1	(1)	Pulp	5	(5)
Railroad/Bus	2	(0)	Real estate	0	(3)
Retail	5	(7)	Rubber	1	(0)
Steel	3	(2)	Textile	3	(1)
Trading	8	(13)	Transportation machine	0	(2)
Transportation (air)	0	(0)	Transportation (marine)	3	(3)
Service	6	(6)	Total	73	74

(2) 2000-2004

Carmaker	0	(3)	Ceramics	3	(4)
Chemistry	4	(3)	Communication	1	(1)
Construction	11	(14)	Electronics	5	(4)
Food	3	(3)	Machine	7	(4)
Manufacture	0	(0)	Medicine	0	(0)
Nonferrous metal	5	(5)	Oil	1	(1)
Precision instrument	1	(1)	Pulp	1	(1)
Railroad/Bus	0	(0)	Real estate	0	(2)
Retail	3	(3)	Rubber	1	(1)
Steel	2	(0)	Textile	0	(0)
Trading	14	(14)	Transportation machine	0	(0)
Transportation (air)	2	(1)	Transportation (marine)	0	(0)
Service	8	(12)	Total	72	77

Table 3.2 Financial performance (unadjusted)

	(1) Mergers conducted from 1986 to 1999		(2) Mergers conducted from 2000 to 2004	
	Pre-merger[a]	Post-merger[b]	Pre-merger[a]	Post-merger[b]
ROA	4.389%	4.322%	3.942%	4.330%
(return on assets)	(2.694%)	(3.126%)	(3.336%)	(4.947%)
ROE	2.096%	0.556%	-0.200%	2.030%
(return on equity)	(9.590%)	(9.358%)	(10.365%)	(12.302%)
OCF	4.182%	4.405%	4.990%	5.178%
(operating cash flow)	(3.084%)	(3.510%)	(4.414%)	(5.655%)
Sales growth rate	3.831%	5.873%	0.058%	5.430%
	(8.833%)	(10.021%)	(9.066%)	(8.016%)
Cost of goods sold ratio	75.78%	77.593%	77.529%	76.606%
	(16.815%)	(11.062%)	(15.482%)	(15.973%)
Labor cost to sales ratio	4.478%	5.558%	9.355%	8.451%
	(6.184%)	(4.725%)	(7.869%)	(7.389%)
Tobin's q	−	96.732 (17.260)	−	109.670 (19.764)

Standard deviations in parentheses.
[a] Pre-merger performance: the mean of performance during years -3 to -1.
[b] Post-merger performance: the mean of performance during years +1 to +3.

Table 4.1 (Cumulative) abnormal returns for acquiring firms

Trading day	(1) Mergers conducted from 1986 to 1999	(2) Mergers conducted from 2000 to 2004	(3) Mean difference (1) - (2)
Panel A: Abnormal returns (%)			
-5	-0.3071 (-1.461)	0.1461 (0.466)	-0.4532 (-1.203)
-4	-0.2280 (-0.741)	-0.2963 (-0.886)	0.0684 (0.150)
-3	0.1874 (0.649)	0.6055 (1.623)	-0.4180 (-0.887)
-2	0.0056 (0.020)	0.6486 (1.490)	-0.6430 (-1.251)
-1	0.5340 (1.478)	1.1115 (2.685)***	-0.5775 (-1.052)
0	-0.4458 (-0.703)	2.0870 (2.494)**	-2.5328 (-2.417)**
+1	-0.7727 (-1.480)	-0.9217 (-1.604)	0.1490 (0.192)
+2	-0.4530 (-1.772)*	-1.4989 (-4.023)***	1.0459 (2.320)**
+3	-0.4835 (-2.059)**	-0.5839 (-1.652)	0.1004 (0.237)
+4	0.0144 (0.045)	0.3751 (0.873)	-0.3608 (-0.675)
+5	-0.2419 (-0.788)	-0.0291 (-0.075)	-0.2129 (-0.429)
Panel B: Cumulative abnormal returns (%)			
CAR [-1,+1]	-0.6845 (-0.721)	2.2768 (1.772)*	-2.9613 (-1.857)*
CAR [-5,+5]	-2.1905 (-2.023)**	1.6439 (1.412)	-3.8345 (-2.412)**
CAR [-10,+10]	-1.4126 (-1.161)	1.2911 (1.004)	-2.7037 (-1.528)

t-statistics in parentheses.
*, **, *** indicates significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 4.2 (Cumulative) abnormal returns for target firms

Trading day	(1) Mergers conducted from 1986 to 1999	(2) Mergers conducted from 2000 to 2004	(3) Mean difference (1) - (2)
Panel A: Abnormal returns (%)			
-5	-0.1282	0.2227	-0.3508
	(-0.432)	(0.642)	(-0.765)
-4	0.5110	0.4766	0.0343
	(1.133)	(1.301)	(0.059)
-3	0.6596	0.4790	0.1806
	(1.418)	(0.906)	(0.255)
-2	-0.1595	0.9967	-1.1562
	(-0.262)	(1.795)*	(-1.405)
-1	0.4529	1.5533	-1.1004
	(0.865)	(2.637)**	(-1.391)
0	-1.0827	3.6098	-4.6925
	(-0.949)	(3.244)***	(-2.945)***
+1	-2.1977	-1.0296	-1.1681
	(-1.502)	(-1.024)	(-0.664)
+2	0.2373	-2.4585	2.6958
	(0.225)	(-3.586)***	(2.166)**
+3	-0.0093	-0.3250	0.3157
	(-0.016)	(-0.253)	(0.220)
+4	-0.3289	-0.3234	-0.0055
	(-0.638)	(-0.660)	(-0.008)
+5	0.9364	-0.2868	1.2232
	(1.158)	(-0.768)	(1.397)
Panel B: Cumulative abnormal returns (%)			
CAR [-1,+1]	-2.8275	4.1334	-6.9610
	(-1.528)	(2.811)***	(-2.961)***
CAR [-5,+5]	-1.1092	2.9147	-4.0239
	(-0.536)	(1.376)	(-1.357)
CAR [-10,+10]	-1.1104	3.7085	-4.8189
	(-0.494)	(1.770)*	(-1.569)

t-statistics in parentheses.
*, **, *** indicates significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 4.3 Industry-adjusted financial performances

(%) Index	(1) Mergers conducted from 1987 to 1999			(2) Mergers conducted from 2000 to 2004			(g) Difference of merger effect (c) – (f)
	(a) Premerger	(b) Postmerger	(c) merger effect	(d) Premerger	(e) Postmerger	(f) merger effect	
ROA	-0.2689	0.2473	0.5162	0.1877	-0.3536	-0.5413	1.0575
	(-0.701)	(0.611)	(1.452)	(0.452)	(-0.672)	(-1.116)	(1.793)*
ROE	-1.1445	1.5869	2.7314	0.8604	-3.8418	-4.7022	7.4336
	(-0.896)	(0.933)	(1.245)	(0.586)	(-2.128)**	(-2.303)**	(2.436)**
OCF	-0.3746	0.0813	0.4559	0.8126	0.0873	-0.7254	1.1812
	(-0.922)	(0.197)	(1.308)	(1.610)	(0.145)	(-1.387)	(1.931)*
Sales growth rate	-3.3307	-0.1761	3.2487	-6.4076	-17.9311	-10.5766	13.8253
	(-2.126)**	(0.113)	(1.586)	(-3.739)***	(-3.928)***	(-2.113)**	(2.751)***
Cost of goods sold ratio	1.8325	1.9556	0.1231	0.8009	0.5346	-0.2663	0.3895
	(1.372)	(1.347)	(0.218)	(0.482)	(0.293)	(-0.447)	(0.473)
Labor cost to sales ratio	-5.9889	-5.7376	0.2514	-2.1463	-2.3668	-0.2205	0.4719
	(-7.618)***	(-7.782)***	(0.391)	(-2.570)**	(-2.830)***	(-0.382)	(0.539)
Tobin's q	–	96.7320	-3.2680	–	109.6700	9.6700	-12.9380
		(–)	(-1.595)		(–)	(3.914)***	(-4.060)***

t-statistics in parentheses.

*, **, *** indicates significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 4.4 Relationship between cumulative abnormal returns for acquiring firms and changes in performance

Panel A: (1) Mergers conducted from 1986 to 1999

		ROA			ROE			OCF			Tobin's q		
		Negative	Positive	Sum	Negative	Positive	Sum	Negative	Positive	Sum	Negative	Positive	Sum
CAR [-1,+1]	Negative	14(14.5)	17(16.5)	31	14(11.4)	14(16.6)	28	13(14.0)	18(17.0)	31	18(21.3)	18(14.7)	36
	Positive	15(14.5)	16(16.5)	31	10(12.6)	21(18.4)	31	15(14.0)	16(17.0)	31	24(20.7)	11(14.3)	35
	Sum	29	33	62	24	35	59	28	34	62	42	29	71
	Statistic	χ^2=0.065 (d.f.1)			χ^2=1.919 (d.f.1)			χ^2=0.261 (d.f.1)			χ^2=2.533 (d.f.1)		
CAR [-5,+5]	Negative	17(15.9)	17(18.1)	34	13(12.6)	18(18.4)	31	16(15.4)	18(18.6)	34	24(23.7)	16(16.3)	40
	Positive	12(13.1)	16(14.9)	28	11(11.4)	17(16.6)	28	12(12.6)	16(15.4)	28	18(18.3)	13(12.7)	31
	Sum	29	33	62	24	35	59	28	34	62	42	29	71
	Statistic	χ^2=0.315 (d.f.1)			χ^2=0.043 (d.f.1)			χ^2=0.109 (d.f.1)			χ^2=0.027 (d.f.1)		

Panel B: (2) Mergers conducted from 2000 to 2004

		ROA			ROE			OCF			Tobin's q		
CAR [-1,+1]	Negative	12(12.5)	13(12.5)	25	13(14.5)	11(9.5)	24	12(13.0)	13(12.0)	25	9(10.4)	20(18.6)	29
	Positive	14(13.5)	13(13.5)	27	16(14.5)	8(9.5)	24	15(14.0)	12(13.0)	27	14(12.6)	21(22.4)	35
	Sum	26	26	52	29	19	48	27	25	52	23	41	64
	Statistic	χ^2=0.077 (d.f.1)			χ^2=0.784 (d.f.1)			χ^2=0.297 (d.f.1)			χ^2=0.554 (d.f.1)		
CAR [-5,+5]	Negative	11(12.5)	14(12.5)	25	11(14.5)	13(9.5)	24	11(13.0)	14(12.0)	25	9(10.1)	19(17.9)	28
	Positive	15(13.5)	12(13.5)	27	18(14.5)	6(9.5)	24	16(14.0)	11(13.0)	27	14(12.9)	22(23.1)	36
	Sum	26	26	52	29	19	48	27	25	52	23	41	64
	Statistic	χ^2=0.693 (d.f.1)			χ^2=4.269** (d.f.1)			χ^2=1.211 (d.f.1)			χ^2=0.311 (d.f.1)		

Expected values in parentheses.
*, **, *** indicates significance at the 0.10, 0.05, and 0.01 levels, respectively.

IMPACT OF QUARTERLY DISCLOSURE ON INFORMATION ASYMMETRY: EVIDENCE FROM TOKYO STOCK EXCHANGE FIRMS

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Abstract

We investigate whether quarterly disclosure reporting requirements issued by the Tokyo Stock Exchange on April 1, 2004, the related Financial Instruments and Exchange Act of Japan, and the new quarterly accounting standards helped reduce the degree of private information-based trade for listed stocks utilizing the PIN variable proposed by Easley et al. (1996, 2002). We find that it is indeed the case and that there are significant differences between firms which issued quarterly reports by abiding by the exchange rule and firms which did not. We find that such a difference is strongly related to the differences in the estimated liquidity measures of these stocks. Our paper sheds light on the distribution of private information in the Japanese stock market after the disclosure rule is introduced, which is a new finding.

1. Introduction

Next to the abundant evidence on asset pricing for U.S. data, there is a large amount of empirical evidence on Japanese stock market and financial data. As far as the authors are aware, however, there is no study that investigates the role of interim financial disclosure in stock price discovery processes using microstructure data. In a recent review article, O'Hara (2003) emphasizes the importance of exploring the price discovery process before investigating the asset pricing framework. The studies by Easley et al. (1996, 2002) are examples which explore this price discovery process using tick-by-tick U.S. data. They estimate the so-called "PIN" variable, which is a variable related to the probability of information-based trades among all trades.

The Tokyo Stock Exchange requires disclosure of quarterly financial reports since fiscal year 2003 for firms whose stocks are listed in its first and second sections. This requirement, however, is without enforceable penalty even if firms choose not to disclose. Moreover, the new accounting quarterly disclosure standards established March 14, 2007, along with the new Financial Instruments and Exchange Act of Japan enacted September 30, 2007, require disclosure of quarterly financial statements with auditors' reviews from fiscal year April 1, 2008, which has completely changed the previous requirement of semi-annual reporting with certified accountant audits in Japan.

In this paper we use daily tick-by-tick data of firms listed on the Tokyo Stock Exchange and investigate the impact of the introduction of this quarterly disclosure requirement by the TSE upon informational asymmetry in the capital market. For this purpose we use the PIN variable proposed by Easley et al. (1996, 2002) and investigate whether this

new disclosure requirement helped improve distributions of public information versus private information among all trades in the market.

In view of the fact that the majority of countries do not require quarterly reports, including the U.K., France, Germany, Australia, and Hong Kong, this paper gives researchers important insights into the possible impact of new quarterly report requirements on the working of informational efficiency in capital markets.

Section 2 raises our motivation with a discussion on related previous studies, and explains the basic model. Section 3 explains the data and reports basic statistics. Section 4 reports our main empirical results and Section 5 concludes. Appendix A explains the PIN model in detail and Appendix B reports the estimation result from Duarte and Young's (2009) three stage model that allows for systematic information arrival.

2. Our Research Design

2.1 New Quarterly Reporting Regulations in Japan

The Tokyo Stock Exchange requires firms listed in its first and second sections to disclose quarterly reports since fiscal year April 1, 2003. Preceding this requirement, the TSE announced in June 2002 that the exchange would begin to ask firms to disclose quarterly reports on a gradual basis, and issued a formal statement that required firms to disclose condensed quarterly reports starting April 1, 2003. Initially, however, there was no legal penalty even if firms chose not to disclose financial statements, and we can safely say that this requirement was not strictly enforceable at that time. With the enactment of the new Financial Instruments and Exchange Act in 2008, a Japanese equivalent of the Sarbanes-Oxley Act, firms have to disclose quarterly financial statements based on new Japanese Accounting Standards. That requirement began with fiscal year April 1, 2008. These quarterly financial statements are published with auditors' reviews as in the U.S., and they are substituted for previously reported semi-annual financial statements with certified accountants' audits.

TABLE 1 ABOUT HERE

Table 1 shows the percentage of firms which submitted their quarterly reports to the Tokyo Stock Exchange in the first quarter (April to June) and the third quarter (September to December), starting in fiscal year 2001. More than 90 percent of Japanese firms have a March 31 fiscal year-end, and the quarter starts April 1. During the first few years these firms disclosed on a voluntary basis.[35] The sample in the table is the firms we use for our later statistical tests, and we exclude the firms whose fiscal year-end is other than March 31. The sample also excludes firms whose Amihud (2002) measure could not be computed, which we will use in a later part of this paper. The maximum number of firm observations is 2,127 for the second quarter of 2003 and the minimum is 1,282 for the first quarter of 1998.

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[35] However, in the new emerging market of the "Mothers" at the Tokyo Stock Exchange, quarterly disclosure was required from November 1999.

The third column of the table shows the percentage of firms which disclose the quarterly reports as required by the Tokyo Stock Exchange, the fifth column shows the same percentage of firms listed in the first section, and the last column shows the percentage of firms listed in the second section. We find that only a small percentage of firms disclosed their quarterly reports in fiscal years 2001 and 2002. Since fiscal year 2003 when the stock exchange required the quarterly disclosure, we find that more than 70 percent of firms began to disclose their quarterly reports. For first section firms, these fractions are between 72.7 and 76.5 percent in fiscal years 2003 to 2007, and for second section firms the corresponding numbers are between 60.8 and 70.37 percent. The percentages increased over time for both cases. The difference of the percent between first and second section firms indicates that first section firms with a larger capital base tend to report more willingly than smaller second section firms, but the difference is only about 6.1 percent (76.5 vs. 70.4 percent) in the most recent third quarter of 2007.

Overall, during our sampling period, after fiscal year 2003, about 70 percent of firms disclosed quarterly reports. The increase in the percentage of firms which disclose may reveal interesting time-series data to assess the effect of this disclosure requirement on the working of the stock market in Japan. Moreover, we investigate how degrees of private information-based trades of firms' stocks are different between firms which disclose quarterly reports and firms which do not. In this way, our study can highlight the degree of private information-based trade and accompanying differences in stock liquidity in trading during the time when the new disclosure was introduced into the market.

2.2 Motivation and the Hypotheses

The existence of informational asymmetry among traders in everyday trading is a *de facto* phenomenon even when we accept that the efficient market hypothesis holds for a longer time span. For U.S. data, Easley et al. (1996, 2002) estimates parameter values of the probability of private information-based trades for each day's trading with tick-by-tick data, and similarly, for Japanese data, Kubota and Takehara (2009a) report comparable estimates using tick-by-tick data. These estimated values of the so called PIN variables, which purportedly reveal the probability of private information-based trades, are around 20 percent for mean estimates for these two countries, which support our initial statement in the paper that there exist informational asymmetry in everyday trading of U.S. and Japanese stock markets.[36]

By using microstructure tick-by-tick data for Japan, the main focus of our paper is whether the introduction of new capital market regulations of the quarterly disclosure rule for Japan affects the distribution of private information-based trade relative to public information trade. The motivation to study the impact of the new disclosure regulation rule is similar to previous studies on Regulation FD for the U.S. case by Duarte et al. (2008) and Ahmed and Schneible (2007).

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[36] In Holden and Subrahmanyam (1992) private information is revealed immediately when the trading interval approaches zero in their microstructure model, but empirical results explained in the main text of this paper indicate that is not necessarily the case for U.S. and Japanese stock markets.

313

However, when one can observe informational asymmetry in capital markets and whenever new disclosure regulations are introduced, benefits for individual investors, firms, and accountants need to be compared with additional costs incurred by all agents involved. That is, one has to inquire whether there is positive value added from newly disclosed information (Demski, 1972, p.66, and Proposition 5). However, social consequences are generally impossible to assess due to Arrow's impossibility theorem (Demski, 2003, pp. 429-431). Thus it is difficult to judge whether new disclosure has moved the economy into Pareto improvement.[37] Moreover, Feltham and Christensen (1988) demonstrate that external reporting provides a basis for Pareto improvement only if those reports lead firms to better production decisions, and that the revelation of firm-specific risk does not matter much when investors are well-diversified. In spite of these negative views on the effective assessment of the new disclosure rule, we still believe in the efficiency of competitive equilibrium when private information eventually gets fully impounded into the rational expectations equilibrium price (Hellwig, 1980, Kyle 1985). That being the case, both the identification of the *ex ante* degree of the existence of private information in the price discovery process (O'Hara, 2003) and the quantitative assessment of the *ex post* changes triggered by the introduction of the new regulation rule are worthwhile queries to be empirically explored.[38] This is the main purpose of this study and we employ the PIN concept for this purpose.

First, we state our first two hypotheses:

*H*1: *As the new quarterly reports begin to be disclosed in capital markets, the probability of private information-based trade will decrease.*

*H*2: *The firms which report quarterly financial statements are accompanied by lower probability of private information-based trade than are firms which do not report.*

We also infer that the degree of informational asymmetry is strongly related to the liquidity of the stock, because informational asymmetry means there is wider disagreement among traders about the true quality of the firm, which triggers wider spreads of limit price orders, and also may even restrain traders from trading stocks if there exists too much uncertainty about the true quality of the firm. Easley and O'Hara (2004), for example, demonstrate within their rational expectations equilibrium model that stocks with higher private information weights reach lower equilibrium prices and thus, an *ex ante* higher cost of capital to compensate for this information risk (Diamond and Verrecchia, 1991). In the context of interim reporting, Yee (2004) constructs a microstructure model with market makers, analysts, and liquidity traders, and shows (*ibid.*, Proposition 3) that increasing reporting frequencies improves the stock liquidity at each announcement date.

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[37] The proposal from the aspect of the equity concept is conducted by Lev (1988) with regard to the accounting policy context. It is outside the scope of this research.

[38] Note that Laffont (1985) also demonstrates that *ex post* fully revealing rational expectations equilibrium is *ex post* Pareto optimum.

In microstructure studies it is widely assumed that the more illiquid stocks have higher risk and hence higher *ex ante* expected returns (O'Hara, 1995). So we also look at the relationship between private information-based trade and the stock liquidity from this aspect.

Thus, based on the PIN variable we raise our third hypothesis:

*H*3: *When the probability of private information-based trade of a stock decreases, the liquidity of this stock will increase.*

Once again, we are only interested in identifying the association and will not make any further value judgments even if we find evidence to support our hypothesis *H3*. In order to do that, we need to use the correct form of asset pricing theory to control for systematic risks of stocks and it is outside the scope of this research.[39] This is not the main purpose of the paper and our research focus is identifying the distribution of private information-based trades and their changes relating to the introduction of new disclosure regulation rules. It will also give us a clue to identify the price discovery process of stock trading in Japan in relation to the new disclosure rule. Furthermore, it will give us insight into investigating how changes in private information-based trade are related to stock liquidity measures. In this sense our research is purely descriptive but at the same time it provides us with an important insight about changes in the informational structure of capital markets triggered by the introduction of a new disclosure regulation.

One question remaining is whether the frequency of disclosure increases the informational uncertainty. It is outside the scope of this research because we will not investigate the price and/or volume reactions on and around the announcement dates of quarterly reports. However, we cite evidence by Mensah and Werner (2008) which shows that price volatility is higher in countries with a quarterly reporting environment like the U.S. and Canada than in countries with a semi-annual reporting environment like the U.K. and Australia.[40] Also, Atiase et al. (1988) raise the issue of timeliness of financial reports and find that it is strongly related to size, and that a longer delay is associated with smaller price reactions, suggesting more information inflow from other channels. So it seems that more timely disclosure increases price volatility. But again, this is outside the scope of this research.

2.3 Previous Studies on PIN and Interim Reports

The most pertinent study related to the current paper is Duarte et al. (2008). They use the estimated PIN variable as a proxy variable to measure the degree of informational asymmetry and find that the Regulation FD affects the cost of capital, using the PIN variable with other control variables. In Duarte et al. (2008) the estimated PIN and other variables are used as independent variables to predict

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[39] Recently, Kubota and Takehara (2009b) addressed this issue and found that both the systematic component and the idiosyncratic component of liquidity risk are significant to explain stock returns.
[40] In an early article, May (1971) finds that the price-change response to quarterly earnings was less, but not significantly less than the response for annual earnings.

changes in the cost of capital of firms after the Regulation FD was introduced in 2000. Their main finding was that NASDAQ firms were more strongly affected and costs of capital for these firms increased, suggesting that smaller firms bear more increased costs due to the new disclosure rule.

In other PIN related studies, Vega (2006) analyzes both the behavior of the post announcement return drifts and changes in the PIN variable around the earnings announcement dates with U.S. data. She finds that the order arrival rate is more important than degrees of private information in explaining post-announcement drifts. In other studies, the relationship between the PIN variable and the order placement strategy is analyzed by Ellul et al. (2003) with NYSE data and the relationship between the PIN and credit rating as public information is analyzed by Odders-White and Ready (2003), again for U.S. data.

For the Paris stock market, Atkas et al. (2003) investigates informational effects of corporate events like mergers and acquisitions using the PIN variable. As for the Japanese evidence, Kubota and Takehara (2009a) estimate the PIN values for Tokyo Stock Exchange firms and report the comparable parameter values for Japan with U.S. firms estimated by Easley et al. (2002). These results confirm the robustness of PIN estimates across international markets with different market designs.

For empirical evidence on quarterly report disclosure and the effect of the timing of the interim reports, the former goes back to the late 1960s using U.S. data. One of the earliest empirical studies using quarterly reports is Green and Segall (1967). They reach a negative conclusion that the first quarter earnings figure does not help forecast annual EPS figures, while Brown and Niederhoffer (1968) find the contrary.[41] Brown and Kennely (1972) use another Ball and Brown methodology and find that advanced knowledge of quarterly earnings can enhance abnormal returns of portfolios relative to the portfolio strategy based solely on annual earnings. This finding is further supported by Foster (1977), who finds that abnormal returns surrounding the interim report announcements are twice as large as ones obtained from annual reports. McNicholas and Manegold (1983) conduct a study using volatility estimates with a sample of 34 firms listed on the AMEX in 1961 and 1962. These firms began to publish quarterly reports according to the then new rule by the AMEX, and McNicholas and Manegold find that the variance of abnormal returns obtained from annual reports decreased upon the enactment of the new disclosure rule, and thus support the hypothesis that additional disclosure of quarterly reports helps decrease the price uncertainty surrounding announcement dates of annual earnings. On the other hand, as stated above, Mensah and Werner (2008) have shown that price volatility is higher in countries with quarterly reporting, like the U.S. and Canada, than in countries with semi-annual reporting like the U.K. and New Zealand. Also, Atiase et al. (1988) studied timeliness of financial reports and showed that it is strongly related to the size, and that a longer delay is associated

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[41] See Kaplan (1978) for a review of initial literature in this field which investigated the information content of interim reports.

with smaller price reactions, suggesting there is a large inflow of information from other channels.[42]

For similar evidence in Japan on interim reports, in particular, semi-annual reports, Kubota et al. (2005) find that revisions of earnings forecasts by analysts are related to disclosure timing of the semi-annual financial statement, using data from 1980 through 2005. They find that abnormal returns generated by accruals information of the previous fiscal year's earning numbers get readjusted around this time period.

Thus, evidence for both the U.S. and other countries seem to suggest that a pricing impact is triggered when a new interim reporting requirement is imposed on the market. In this paper we investigate these effects from the aspect of private information trades and stock liquidity.

2.4 PIN Model Used

The details of the model originally developed by Easley et al. (1996) and extended in Easley et al. (2002) are summarized in Appendix A and we outline only the estimating equation below. In their original model there are three types of market participants: market makers, informed traders, and uninformed traders. However, based on comparable parameter estimates by Kubota and Takehara (2009a) on Tokyo Stock Exchange firms and by Atkas et al. (2003) on Paris Bourse firms to the NYSE firms by Easley et al. (2002), we directly apply the PIN estimation method to the electronic order driven market of the Tokyo Stock Exchange and investigate the relative weight of private information trades and public information trades. [43]

In their original model there are two types of traders in the market: informed traders and uninformed traders. First, nature chooses once every day whether there is a new information event with probability α, or not, with probability $(1-\alpha)$. The orders arrive according to the Poisson process and the uninformed traders send their orders with the buying order rate of ε_b and the selling order rate of ε_s. The order arrival rate by the informed is with rate μ whenever the information event arrives, and when the news is good the buy order increases at this rate and when the news is bad it decreases at this rate.

In the following equation (1) we put the symbol "hat" in the equation to denote that they are estimates from the estimating equation (A-2) in Appendix A. In estimating the

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[42] The thorough investigation of the relationship between the PIN, liquidity, and the volatility is our future work.

[43] We thank Maureen O'Hara for discussing this point. Kubota and Takehara (2009a, p. 321) discuss why limit orders can play the role of market makers for the Tokyo Stock Exchange data. When Foucault (1999) analyzes the nature of dynamic limit order markets, he refers to the Tokyo Stock Exchange as a representative market of this kind. Moreover, Back and Baruch (2004) prove the equivalence of the floor market and the market with market makers under suitable regularity conditions.

parameter vector with tick data we numerically maximize this likelihood function without constraints using a standard computing procedure.[44]

$$PIN = \frac{\hat{\alpha}\hat{\mu}}{\hat{\alpha}\hat{\mu} + \hat{\varepsilon}_b + \hat{\varepsilon}_s} \qquad (1)$$

This PIN variable, based on Bayes's theorem, represents the *ex post* probability that the trades are triggered by private information among all tick-by-tick trades. In (1) the numerator denotes the number of orders which is composed of the information-based order arrival rate times the occurrence of the information event, and the denominator is the total sum of the information-based trade and the sell and buy trades for the non-information event case.

In estimating the necessary parameters as shown in Appendix A's equation (A-2), we use tick-by-tick records for all the stocks and classify each transaction as either a buy or a sell order without ambiguity with the following method.[45] That is, all previous and current bid and ask quotes are recorded in our dataset, and based on these quotes, we classify all transactions as either buy or sell depending on whether each market-cleared transaction is determined either above or below the middle point of the most recent bid and ask price. We impose further conditions, in that at least 45 days of trading data are available to compute the quarterly PIN for each firm.

3. Definition of the Variables Used and the PIN Estimates

The data we use for this study is as follows. First, the sample is firms listed in the first and the second section of the Tokyo Stock Exchange from 1996 through the third quarter of 2008.

To estimate the PIN variable we use tick-by-tick quote and transaction data provided by Nikkei Media Marketing Co., Ltd. For financial data, the source is again Nikkei Media Marketing Co., Ltd. Two variables we use are: lnMV, which is a natural logarithm of market value of equity (in million yen), and B/M, which is the book-to-market ratio of the firm in percent. These financial attributes of the firm, lnMV and B/M, are computed from the Nikkei Portfolio-Master Database.

As for the record of quarterly disclosure by firms listed in the Tokyo Stock Exchange, we use the "eol" on-line database provided by eol, Inc. This data is originally constructed by the TD-Net of the TSE, and the data is automatically transmitted to eol, who construct their database from HTML and PDF files of quarterly financial statements from the TSE. We conduct the content search using eol's search engine to collect necessary data.

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[44] We estimate the parameters by using the function "min_uncon_mulvar" in the IMSL CMATH Library. This function uses a quasi-Newton method to minimize the multivariate function and the details of our algorithm as explained in Dennis and Schnabel (1983). The resulting estimates of the PIN variable belong to a class of asymptotically efficient estimators (Amemiya, 1985).

[45] Hence, we do not have to use the conventional "tick test" which is the case for markets with specialists.

Based on the collected records from eol, we construct a dummy variable called the "QDDummy" variable and this variable is assigned value 1 if we find quarterly financial statements, and it assigned value 0 otherwise. As for the number of analysts following the firm, which we call "NAnalysts," this figure is computed based on the I/B/E/S International Summary History File provided by Thomson Reuters Markets KK.

To construct the liquidity measures, we compute two alternatives: ILLIQ by Amihud (2002) and the turnover ratio. The data source is the Nikkei Portfolio-Master Database.

The definition of these measures is as follows. First, let $NSTD_{j,t}$ denote the number of shares of firm j traded in month t, and $NS_{j,t}$ denote the number of shares outstanding for firm j at the end of month t. Then the '$Turn_{j,t}$', turnover ratio of firm j in month t is defined as

$$Turn_{j,t} = NSTD_{j,t} / NS_{j,t} \qquad (2)$$

This variable measures the degree of liquidity by looking at the trading volume, which is a standard measure used in microstructure studies.

Next, the "illiquidity" measure proposed by Amihud (2002) is defined as the average ratio of the daily absolute return to the trading volume on that day. Let $D_{j,t}$ denote the number of days in which trading volume of firm j is strictly positive, $r_{j,d,t}$ denote the daily return of stock, and $v_{j,d,t}$ denote the trading volume in million yen. Then, $ILLIQ_{j,t}$, the illiquidity measure by Amihud (2002) for firm j in month t is defined as follows.

$$ILLIQ_{j,t} = \frac{1}{D_{j,t}} \sum_{d=1}^{D_{j,t}} \frac{|r_{j,d,t}|}{v_{j,d,t}} \qquad (3)$$

This measure is widely used in asset pricing theory tests in financial economics (for example, Avramov et al. (2006) for U.S. data and Kubota and Takehara (2009b) for Japanese), and we choose to use this measure.

The additional two variables that we use as control variables in our regression analysis are the number of analysts following each firm and the number of outstanding series of corporate bonds. The first variable is directly taken from the I/B/E/S data and we count the number of earnings' forecasts at the end of each quarter for each firm. The second variable is from the Nikkei NEEDS Database and the counts the number of series of outstanding bonds. These are to control for the general inflow of firm-related public information. Analysts contribute to increased information about firms' future profitability and thus, on stock returns, and the new issuance of corporate bonds needs new credit ratings each time by credit rating agencies.

Next, we report the basic PIN estimation results in Table 2, Figures 1, and Figure 2.

TABLE 2 ABOUT HERE
FIGURE 1 ABOUT HERE
FIGURE 2 ABOUT HERE

319

In Table 2 we report average values of estimated PINs for all quarters from fiscal year 1996 through 2007. First of all, we find that general tendencies for PIN values decline over time, although not uniformly. In earlier years, we find the PIN for the fourth quarter is the largest with 22.782 and 22.278 for the first quarter. The numbers for the second and third quarter are smaller at 21.617 and 20.976, respectively. In recent years after the majority of quarterly reports became publicly available to analysts and investors, however, we find that the patterns become almost indistinguishable: i.e., 15.389, 15.356, 15.225, and 15.260 for the first, second, third, and fourth quarter, respectively, in 2007. So we conjecture that quarterly disclosure has something to do with the seasonal differences of the PIN value.

The above pattern can also be easily seen from Figure 1 where each horizontal line is the overall mean of PIN values for each quarter, and the data is stacked by quarters so that one can find time-series patterns of quarterly PINs. From the figure we can clearly read the declining pattern of PIN values for each quarter.

In Figure 2, the same data are plotted in the year scale graph on which all four quarter values are stacked on the same time year scale. By comparing the former year data with the recent year, one can confirm that seasonal differences of the PIN, as read as vertical representation of each quarter's estimates, began to decrease from fiscal year 2003 and 2004. Thus, we infer that the new quarterly disclosures had something to do with the decrease in PIN values. This is in conjunction with our hypothesis *H1*. We will conduct further tests in the next section to pinpoint further the firm-wise behavior of these PIN values after controlling for firm-specific variables.

Table 3 reports PIN values as well as other firm characteristic variables by dichotomously splitting the sample into sets of quarterly report disclosing and non-disclosing firms. In each panel the second column reports the average values for disclosing firms and the third column reports the same for non-disclosing firms. The fourth column computes the mean difference and the fifth column reports corresponding *p*-values.

TABLE 3 ABOUT HERE

Note we report in Table 3 only the results for the second and fourth quarter, at which time quarterly earnings reports for the previous first and third quarter are formally reported. Note that the second and fourth quarter correspond to the periods when either the fiscal year-end financial statements or the semi-annual financial statements are still computed in-house and then published in the succeeding first and third quarter, respectively. The quarterly report for the second and fourth quarter which are to be reported in the third and the first quarter are thus nothing but the subset of the semi-annual and fiscal year full financial statement. This is why we do not report the results for these two quarters, as we are only interested in investigating the impact of new quarterly interim reporting, which did not exist in earlier years for Japan.

In Panel A of Table 3 we find that unanimously disclosing firms have higher average PIN values than non-disclosing firms for all quarters in fiscal year 2003 to 2007. For the fourth quarter of 2007, for example, the numbers are 0.148 vs. 0.166 and the difference

is -0.017 with *p*-value 0.000. Except for three cases, the differences are significant. That is, there is a clear-cut difference in degrees of private information-based trades in their quarterly reports between disclosing and non-disclosing firms. We find more cases of insignificant results in earlier years of the sample, and after the second quarter of 2002 they become unanimously significant and *p*-values become zero. We believe it is a very strong result that supports the possible impact of the new quarterly reporting requirement to private information-based trades.

In Panel B we report the corresponding "illiquidity" measures by Amihud (2002) and again the signs are uniformly negative, suggesting that disclosing firms are more liquid. In the fourth quarter of 2007 the numbers are 0.270 vs. 0.431. Again, except for four cases, the differences are significant at a 5% level. Particularly, it is notable that illiquidity differences between the two groups are strongly significant in all of the fourth quarters of four years of our sampling period. This is not necessarily the case with the former PIN case (Panel A) and it shows that these two variables may be related, but may contain different information. Note the fourth quarter case is from January to March in Japan when the fiscal year-end is approaching and news is flowing to the media regarding annual performance of firms, which may affect trading volume as well as stock liquidity.

Panel C and Panel D report firm characteristics of disclosing and non-disclosing firms. The size matters (Atiase et al., 1988), and disclosing firms are larger than non-disclosing firms, and the differences are all strongly significant with *p*-values zero. For the fourth quarter of 2007 the numbers are 10.695 vs. 10.248. Although disclosing firms have higher book-to-market ratios than non-disclosing firms (for the fourth quarter of 2007, 123.670 vs. 115.218) the differences are not significant in four cases out of ten, and we do not particularly conclude here.

Panel E reports the average number of analysts who follow firms measured in the final month of each quarter, and again, disclosing firms get more analyst attention (for the fourth quarter of 2007, 3.090 people vs. 1.925 people), and most importantly, the differences are significant for all quarters.

Panel F reports the number of different series of corporate bonds issued, and because we find in general that disclosing firms are larger in size than non-disclosing firms, we also find that disclosing firms have more frequent issuances with credit ratings attached anew each time.

4. Empirical Results

We report our empirical results in this section. Table 4 reports the correlation coefficients of the pertinent variable which we use for the pooled OLS regression analyses. The upper right hand off-diagonal elements report Pearson correlations and the lower left hand off-diagonal elements report Spearman rank correlations. Panel A is the result for disclosing firms and Panel B is the result for non-disclosing firms.

TABLE 4 ABOUT HERE

Because some of the variables are not continuous variables, we interpret primarily the results from Spearman correlations. In Panel A we find that the PIN value is positively correlated with illiquidity at 0.484 and in Panel B we find that the same number is smaller for non-disclosing firms at 0.220. So the illiquidity of non-disclosing firms may contain other underlying economic factors other than private information-based trade. On the other hand, we find for disclosing firms the degree of private information-based trade has a stronger direct relationship with the illiquidity measure. Duarte et al. (2008) finds that the impact of Regulation FD on the cost of capital was different between NYSE firms and NASDAQ firms, using the PIN variable. We also use both the first and second section firm samples of the Tokyo Stock Exchange, and it is not a surprise that the smaller non-disclosing firms from the second section have more illiquidity problems, which do not result from private information-based trade *per se.* For example, Kubota and Takehara (2009a, Table 4) find that smaller firms have smaller information arrival rates and larger bad information arrival rates than larger firms for the first section TSE firms. Again, we will not conclude with just this correlation number between PIN and "illiquidity" and we will test this relationship in a formal multivariate analysis below.

In Table 4, for both disclosing and non-disclosing firms, the PIN value is negatively related to size, number of analysts, and amount of different series of bonds issued, which are quite intuitive, and positively related to book-to-market ratios, which means depressed firms have higher PIN values. We find the correlations are overall larger for disclosing firms and we suspect there is more room for unexplainable elements for non-disclosing firms.

A caveat here is that the clearer-cut relationship between public information and the PIN among disclosing firms may either be an indication that quarterly reporting helps, or that there is a self-selection of good firms who keep sending signals to markets and thus the financial attributes and quality of firms may be more opaque than non-disclosing firms. We cannot distinguish between these two different scenarios judging only from this correlation table and because it suffers from a typical endogeneity problem.[46]

Next, Table 5 reports the regression results, in which the dependent variable is the PIN, and regression analyses are conducted for all pooled samples and for the second and third quarters. Panel A is for all samples including all four quarters, Panel B is for the second quarter, and Panel C is for the third quarter. Note all sample cases include the time periods of both semi-annual financial statement disclosure and fiscal year-end financial statement disclosure.

TABLE 5 ABOUT HERE

As explained above, in the regression, QDDum is the dummy variable which takes value 1 if a firm discloses quarterly reports and 0 otherwise. The "illiquidity" measure we use is the Amihud (2002) measure defined in (2). The regression coefficient of QDDum,

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[46] This is our ongoing research. First, we entangle the fixed effects and the random effects. Second, the firm's choice to disclose or not to disclose can be incorporated, for example, by Heckman's two step procedure. Finally, entangling the joint effects of the liquidity and the private information trade within a simultaneous equation framework is for our future endeavor.

which is shown in the second row of Panel A, is negative and significant, which means the intercepts are different between disclosing and non-disclosing firms. Without other controls, the intercept (unconditional predictor of PIN) is 0.182 for non-disclosing firms and 0.160 for disclosing firms. With all the control variables included, as shown in the bottom row of this panel, the intercepts are 0.325 vs. 0.309, respectively. After we add control variables, the intercept estimates increase.

Among the explanatory variables we find that the "illiquidity" measure, the number of different series of bonds issued, and book-to-market ratios are not significant for all sample cases as shown in Panel A. The number of analysts and the size are significant. The signs are as *a priori* expected and confirm the result in Table 4. The results for each quarter in Panel B and Panel C, when neither the semi-annual financial statement nor the fiscal year financial statement is published in the same quarter, show a drastically different picture of the "illiquidity" variable. This time this variable becomes strongly significant though the coefficient is in accordance with our prior information only in the second quarter. Note it is the informationally quieter interim period between the fiscal year- end and the forthcoming semi-annual report, and we find that the illiquid (liquid) stocks have higher (lower) PIN values conditional on whether or not they disclosed quarterly reports. For the fourth quarter, the sign does not match with our prior information, but in view of the large quantity of information inflows into the market as the fiscal year-end approaches, there may be more missing control variables in this regression equation. Finally, once again we find that the number of different series of bonds issued and book-to-market ratios are not significant. Overall, the evidence supports our hypothesis *H2*.

In Table 6, by reversing the order of the set of the independent and dependent variables, we try to explain the stock liquidity by using the estimated PIN and other same control variables. Because we want to explain the liquidity in this regression, we conduct two types of regressions using two measures of liquidity as defined in (2) and (3) above.

TABLE 6 ABOUT HERE

Panel A is the case for the Amihud measure and Panel B is for the turnover ratio. Thus, the signs ought to be opposite each other. In the bottom row of Panel A, for the case with all the control variables included, we find that the sign of PIN is positive as predicted, but it is not significant at 0.021 with *p*-value 0.702. However, when we do not control for the size or book-to-market ratio as shown in the upper second row from the bottom and also when we include only the PIN and disclosure dummy variable as shown in the next row above, the PIN values become larger (0.745 and 1.097, respectively). Accordingly, when we pool the sample and do not control for size and value effects, we find that the PIN value can explain significantly the directions and magnitude of the estimated Amihud illiquidity measure, and this result supports our hypothesis *H2*. Note also that the dummy variable is strongly significant and the sign is negative as predicted. As was the case of the estimates for the PIN, the absolute values of the estimated coefficients are larger for the cases without control variables than the case with control variables (-0.145 and -0.144 vs. -0.058, respectively).

323

In Panel B where we use the monthly turnover ratio as a dependent variable, the result is much stronger in the sense that even when all the control variables are included, the variables of our interest remain significant. The coefficient for the PIN (in the bottom row of Panel B) is -0.441 with *p*-value 0.000. The coefficient does not change even if the control variables drop (-0.420 and -0.397, respectively) and the result is quite robust. The case is similar for the disclosing dummy variable, in which case the coefficients are 0.018, 0.015, and 0.015 with all *p*-values at 0.000.

By summarizing these results as reported in Table 6, we conclude that the PIN variable helps explain the change in liquidity and supports our hypothesis *H*3, and the stocks of disclosing firms of quarterly reports are traded with higher liquidity than stocks of non-disclosing firms, even after controlling for differences in the probability of private information-based trades.

In sum, based on the strong support of our hypotheses *H*2 and *H*3, which says that the increase in this liquidity is brought about by the decrease of PIN over time, we infer that it is highly likely that these phenomena were triggered by the introduction of the new quarterly reporting requirements issued by the Tokyo Stock Exchange. In conclusion, our findings are in accordance with our first hypothesis *H*1, which claims that the new disclosure regulation can decrease the probability of private information-based trades.

5. Conclusion

We investigate whether quarterly disclosure reporting requirements issued by the Tokyo Stock Exchange on April 1, 2004, the related Financial Instruments and Exchange Act of Japan, and the new quarterly accounting standards helped reduce the degree of private information-based trade for listed stocks, utilizing the PIN variable proposed by Easley et al. (1996, 2002). We find that it is indeed the case and that there are significant differences between firms which issued quarterly reports by abiding by the exchange rule and firms which did not. We find that such a difference is strongly related to the differences in the estimated liquidity measures of these stocks. Our paper can shed light on the distribution of private information in the Japanese stock market after the disclosure rule was introduced, which is a new finding.

Appendix A: On the PIN Model

It is assumed that there is a sequence of trades which is repeated over *I* (*i* = 1, 2,…, *I*) trading days. In this model it is assumed that there are two types of traders in the market, informed traders and uninformed traders. Initially, nature chooses once every day whether there is a new information event with probability α, or not, with probability $(1-\alpha)$. Given that new information arrives in the market, it initially gets revealed only to informed traders. If it is good news, the firm value is assessed to be V_i^H and, if it is not, it becomes V_i^L ($V_i^L < V_i^H$). The probability of good news is denoted as $(1-\delta)$ and the probability of bad news is denoted as δ. In the original

model by Easley et al. (1996) the risk neutral market maker will act as an intermediary, and via her/his profit maximizing behavior of sending her/his ask and bid quotes into the market, the equilibrium price eventually obtains.

The traders' arrival process is as follows. It is assumed that traders arrive at the market according to continuous time Poisson process at every minute of trading in the model. Note that, depending on whether or not new information has arrived, informed traders may or may not get into the market. Orders from informed traders arrive at the rate μ, with a Poisson process, given that the information event has occurred. On the other hand, the buy order arrival rate and the sell order rate from uninformed traders are also drawing from a continuous Poisson process and the former is denoted as ε_b and the latter as ε_s.

Then, the estimating model is as follows. On every day of trading the likelihood of observing the quantity of limit buy orders *B* and the quantity of sell orders *S* are computed as in the next equation (A-1). In (A-1) the first term is the case of a no information event, the second is the case of a bad news event, and the third is a good news event. The indicator variable Ψ in (A-1) takes a value of either one of –1, 0, or 1, which specifies which of the above three events have taken place. The vector of the parameters is denoted as $\theta = (\alpha, \mu, \varepsilon_b, \varepsilon_s, \delta)$.

$$L(\theta|B, S, \Psi) = L(\theta|B, S, \Psi = -1) + L(\theta \,|\, B, S, \Psi = 0) + L(\theta \,|\, B, S, \Psi = 1)$$

$$= (1-\alpha)e^{-\varepsilon_b} \frac{\varepsilon_b^{B}}{B!} e^{-\varepsilon_s} \frac{\varepsilon_s^{S}}{S!} + \alpha\delta e^{-\varepsilon_b} \frac{\varepsilon_b^{B}}{B!} e^{-(\mu+\varepsilon_s)} \frac{(\mu+\varepsilon_s)^{S}}{S!} \qquad \text{(A-1)}$$

$$+ \alpha(1-\delta)e^{-(\mu+\varepsilon_b)} \frac{(\mu+\varepsilon_b)^{B}}{B!} e^{-\varepsilon_s} \frac{\varepsilon_s^{S}}{S!}$$

As every trading day is assumed to be an independent drawing in the model, the likelihood function for observing the data $M = \{B_i, S_i\}_{i=1}^{I}$ after the elapse of *I* days can be simply written as the product of each daily likelihood function (A-1).

$$L(M \,|\, \theta) = \prod_{i=1}^{I} L(\theta|B_i, S_i, \Psi_i) \qquad \text{(A-2)}$$

Using sample observations, we estimate the likelihood function (A-2) and obtain the estimates of the information-based trade PIN variable defined in equation (1) of the main text by Bayes' rule.

Appendix B: On the Duarte and Young (2009) Estimation Method

As an extension of this research, we also estimated the stochastic process proposed by Duarte and Young (2009), in which the additional systematic order flow shock governed by the extra Poisson arrival is added to the original arrival process in Easley et al. (1996, 2002). Because this new estimation method is yet well established relative to the conventional PIN estimation method, we decide to report the summary result of this method in the Appendix.

First of all, during the estimation process, unlike in the conventional PIN estimation, we find that estimated alphas hit the lower bound often (17.13% of the sample) and the deltas hit the upper bound more often (39.08%). Moreover, we frequently had to reiterate computations by plugging in alternative initial values by generating random numbers so that the global maximum could be finally reached. We infer that these apparent shortcomings come from the more complex stochastic processes assumed. We judge these estimation problems may blur the original implications from Easley and O'Hara's PIN model, about which we already know the robustness of estimates.

Besides, as far as we compare the estimated results of the conventional PIN and the Duarte and Young method for our sample, we also cast some doubt about the obtained estimates.

Below is the summary of our estimation results.

TABLE A-1 ABOUT HERE

Panel A reports the average values of the estimated PIN variable using Duarte and Young's (2009) three stage information arrival process, and we find that the estimated PIN values are almost half of the conventional PIN values. This is not a problem *per se* if the remaining probability mass is impounded into the probability of the systematic order-flow shock that Duarte and Young (2009) introduce. However, the time-series pattern of PIN estimates shown in the table reveal that the PIN value becomes larger as time elapses and *vice versa* for the probability of the systematic order flow. Considering that the trading volume remained stale after the crush of the 1989 bubble and the 2000 IT-related bubble for the Japanese market, the latter result for the systematic order flow looks odd to us.

As we discussed in the main text of the paper, the PIN estimates are the focus of the paper. However, in Table A-1 we find that the probability of private information-based trade increases as the years pass. This phenomenon does not look convincing because we know that there was drastic advancement in disclosure rules and related stock market regulations in Japan, including the rapid convergence efforts of accounting standards to the International Accounting Standards by 2015, the new Corporate Law of 2006, and the Financial Products and Services Law of 2007, the last one resembling the U.S. Sarbanes-Oxley Act. Thus, we do not think our estimated result using the Duarte and Young (2009) method can well explain the probability of private information-based trade. Thus, in the main text of the paper we decide to use only the conventional PIN estimates whose robustness is better known across world markets.

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Table 1. Percentage of the Firms Who Disclose Quarterly Financial Statements

The number and the percentage of firms listed in the Tokyo Stock Exchange are reported for each first and third fiscal quarter of the year. Note the first quarter starts April 1 in Japan. NTSE1 denotes the firms listed in the first section of the Tokyo Stock Exchange and NTSE2 denotes the second section.

	NFirms	%Disc	NTSE1	%Disc1	NTSE2	%Disc2
FY2001Q1	1,619	0.000	1410	0.000	209	0.000
FY2001Q3	1,704	3.638	1448	3.798	256	2.734
FY2002Q1	1,721	10.285	1466	11.323	255	4.314
FY2002Q3	1,757	11.611	1493	12.793	264	4.924
FY2003Q1	1,866	70.364	1504	72.673	362	60.773
FY2003Q3	1,973	71.262	1540	73.571	433	63.048
FY2004Q1	1,947	72.368	1569	74.124	378	65.079
FY2004Q3	2,093	72.384	1640	74.085	453	66.225
FY2005Q1	2,111	72.999	1656	74.215	455	68.571
FY2005Q3	2,123	72.539	1699	74.044	424	66.509
FY2006Q1	2,052	73.587	1708	74.532	344	68.895
FY2006Q3	2,114	73.746	1745	74.785	369	68.835
FY2007Q1	2,082	74.784	1738	75.662	344	70.349
FY2007Q3	2,032	75.640	1735	76.542	297	70.370

Table 2. The Quarterly Pattern of PIN

The average value of the estimated PIN is reported for each quarter and for each year of our sampling period. The samples are all the firms listed in the first section and the second section of the Tokyo Stock Exchange and the results for each first and third fiscal quarter of the year are reported. The first quarter starts April 1 in Japan. The maximum number of firm observations is 2,127 for the second quarter of 2003 and the minimum is 1,282 for the first quarter of 1998.

	Q1(Apr-Jun)	Q2(Jul-Sep)	Q3(Oct-Dec)	Q4(Jan-Mar)
1996	22.278	21.617	20.976	22.782
1997	22.097	20.517	21.884	23.119
1998	22.801	21.965	22.227	23.375
1999	20.944	19.750	18.367	18.326
2000	18.879	19.492	17.852	20.634
2001	19.546	18.832	19.121	20.523
2002	19.837	21.223	18.996	18.966
2003	18.183	17.183	17.376	18.677
2004	17.857	16.967	17.153	16.905
2005	16.680	15.718	15.126	15.652
2006	15.369	15.750	15.825	15.793
2007	15.389	15.356	15.225	15.260

Table 3. Characteristics of the Sample Firms

The characteristics of sample firms are reported for each quarter and each month. For each panel, the average of firms who disclosed the quarterly reports, the average of firms who did not, the mean difference, and the *p*-value for Wilcoxian mean tests are reported. Panel A reports PIN, Panel B reports the illiquidity measure by Amihud (2002), Panel C reports the market value of the firms, Panel D reports the book-to-market ratios, Panel E reports the average number of analyts' followings during the last month of each quarter and Panel F reports the number of outstanding brands of corporate bonds for the same month as above. Note the first quarter starts April 1 in Japan.

	Panel A. PIN Variable				Panel B. ILLIQ (Illiquidity Measure)			
	Disclosed	Not Disclosed	Diff.	*p*-value	Disclosed	Not Disclosed	Diff.	*p*-value
FY2003Q2	0.169	0.178	-0.009	0.051	0.138	0.214	-0.076	0.003
FY2003Q4	0.184	0.194	-0.010	0.027	0.096	0.130	-0.034	0.047
FY2004Q2	0.168	0.175	-0.007	0.060	0.108	0.143	-0.034	0.141
FY2004Q4	0.167	0.173	-0.006	0.137	0.044	0.057	-0.013	0.040
FY2005Q2	0.155	0.163	-0.008	0.028	0.039	0.049	-0.010	0.106
FY2005Q4	0.152	0.168	-0.016	0.000	0.060	0.089	-0.029	0.013
FY2006Q2	0.155	0.166	-0.011	0.003	0.079	0.100	-0.021	0.108
FY2006Q4	0.154	0.168	-0.014	0.000	0.072	0.109	-0.038	0.011
FY2007Q2	0.150	0.164	-0.014	0.000	0.146	0.186	-0.040	0.135
FY2007Q4	0.148	0.166	-0.017	0.000	0.270	0.431	-0.162	0.047

	Panel C. Ln. of Market Value of Equity				Panel D. Book-to-Market Ratio			
	Disclosed	Not Disclosed	Diff.	*p*-value	Disclosed	Not Disclosed	Diff.	*p*-value
FY2003Q2	10.634	10.227	0.407	0.000	103.576	97.639	5.937	0.140
FY2003Q4	10.741	10.414	0.327	0.000	86.382	82.746	3.637	0.257
FY2004Q2	10.771	10.461	0.309	0.000	92.735	82.862	9.873	0.001
FY2004Q4	10.823	10.518	0.306	0.000	79.283	74.012	5.271	0.044
FY2005Q2	10.943	10.569	0.375	0.000	73.691	69.102	4.589	0.042
FY2005Q4	11.156	10.744	0.412	0.000	61.615	60.867	0.748	0.715
FY2006Q2	11.062	10.659	0.402	0.000	79.245	72.065	7.180	0.002
FY2006Q4	11.040	10.635	0.405	0.000	78.823	73.290	5.533	0.020
FY2007Q2	10.941	10.476	0.465	0.000	93.124	88.986	4.138	0.436
FY2007Q4	10.695	10.248	0.447	0.000	123.670	115.218	8.452	0.043

	Panel E. Number of Following Analysts				Panel F. Number of Bonds Issued			
	Disclosed	Not Disclosed	Diff.	*p*-value	Disclosed	Not Disclosed	Diff.	*p*-value
FY2003Q2	3.274	2.418	0.856	0.000	1.003	0.532	0.471	0.001
FY2003Q4	3.045	2.254	0.791	0.000	0.922	0.469	0.453	0.000
FY2004Q2	3.140	2.428	0.712	0.001	0.856	0.519	0.337	0.011
FY2004Q4	2.391	1.659	0.732	0.000	0.742	0.599	0.143	0.301
FY2005Q2	2.724	1.874	0.850	0.000	0.731	0.477	0.254	0.049
FY2005Q4	2.706	1.688	1.019	0.000	0.757	0.429	0.328	0.007
FY2006Q2	2.746	1.742	1.005	0.000	0.763	0.408	0.355	0.003
FY2006Q4	3.030	1.932	1.099	0.000	0.742	0.443	0.299	0.014
FY2007Q2	2.943	1.990	0.952	0.000	0.765	0.486	0.279	0.030
FY2007Q4	3.090	1.925	1.165	0.000	0.770	0.467	0.304	0.014

Table 4. Pearson and Spearman Correlation Matrix

Numbers in the upper-right triangular part of the matrix are Pearson correlations and those in the lower-left triangular part are Spearman rank correlations. PIN is the measure of private information-based trade defined in Easley et al. (2002). ILLIQ is the illiquidity of the firm defined in Amihud(2002). NAnalyst is the number of financial analysts who follow the firm. lnMV is a natural logarithm of the market value of equity in million yen. B/M is the book-to-market ratio in percent.

Panel A. Firms disclosed quarterly financial statement						
	PIN	ILLIQ	lnMV	B/M	NAnalyst	NBond
PIN	1.000	0.131	-0.362	0.127	-0.300	-0.122
ILLIQ	0.484	1.000	-0.262	0.254	-0.116	-0.048
lnMV	-0.417	-0.901	1.000	-0.344	0.756	0.318
B/M	0.192	0.490	-0.417	1.000	-0.220	-0.074
NAnalyst	-0.365	-0.732	0.746	-0.363	1.000	0.285
NBond	-0.264	-0.471	0.486	-0.154	0.461	1.000
Panel B. Firms did not disclosed quarterly financial statement						
	PIN	ILLIQ	lnMV	B/M	NAnalyst	NBond
PIN	1.000	0.011	-0.122	0.005	-0.144	-0.064
ILLIQ	0.220	1.000	-0.265	0.174	-0.110	-0.045
LnMV	-0.133	-0.864	1.000	-0.074	0.699	0.276
B/M	0.079	0.487	-0.454	1.000	-0.031	-0.007
NAnalyst	-0.128	-0.579	0.656	-0.278	1.000	0.277
NBond	-0.114	-0.356	0.394	-0.060	0.381	1.000

Table 5. Results of Regression Analysis

The dependent variable, PIN, is the measure of private information-based trade defined in Easley et al. (2002). Panel A is for all the quarters, B is for the second quarter, and the C is for the third quarter. QDDum is a dummy variable which equals one if the firm disclosed quarterly financial statements. ILLIQ is the illiquidity of the firm defined in Amihud (2002). NAnalyst is the number of financial analysts who follow the firm. lnMV is a natural logarithm of the firm's market value of equity in million yen. B/M is the book-to-market ratio in percent.

	Intercept	QDDum	ILLIQ	NAnalyst	NBond	lnMV	B/M	Adj. R^2
Panel A. All Samples (1st, 2nd, 3rd, and 4th quarter)								
Coef.	0.182	-0.022						0.035
p-value	0.000	0.000						
Coef.	0.180	-0.021	0.007					0.050
p-value	0.000	0.000	0.000					
Coef.	0.194	-0.020	0.004	-0.004	-0.001			0.175
p-value	0.000	0.000	0.000	0.000	0.000			
Coef.	0.325	-0.016	0.000	-0.001	0.000	-0.013	0.000	0.227
p-value	0.000	0.000	0.702	0.000	0.673	0.000	0.550	
Panel B. 2nd Quarter Samples (July-September)								
	Intercept	QDDum	ILLIQ	NAnalyst	NBond	lnMV	B/M	Adj. R^2
Coef.	0.185	-0.026						0.042
p-value	0.000	0.000						
Coef.	0.182	-0.024	0.011					0.069
p-value	0.000	0.000	0.000					
Coef.	0.195	-0.023	0.008	-0.004	-0.001			0.182
p-value	0.000	0.000	0.000	0.000	0.001			
Coef.	0.311	-0.020	0.004	-0.001	0.000	-0.012	0.000	0.221
p-value	0.000	0.000	0.000	0.000	0.715	0.000	0.886	
Panel C. 4th Quarter Samples (January-March)								
	Intercept	QDDum	ILLIQ	NAnalyst	NBond	lnMV	BPR	Adj. R^2
Coef.	0.187	-0.025						0.045
p-value	0.000	0.000						
Coef.	0.185	-0.024	0.005					0.053
p-value	0.000	0.000	0.000					
Coef.	0.200	-0.023	0.002	-0.005	-0.001			0.203
p-value	0.000	0.000	0.000	0.000	0.000			
Coef.	0.351	-0.017	-0.002	-0.001	0.000	-0.015	0.000	0.266
p-value	0.000	0.000	0.000	0.000	0.751	0.000	0.177	

Table 6. Liquidity vs. Quarterly Disclosure

The dependent variable is either ILLIQ or Turn where ILLIQ is the illiquidity of the firm defined in Amihud (2002) and Turn is the monthly turnover ratio of the firm. The PIN variable is the measure of private information-based trade defined in Easley et al. (2002).. QDDum is a dummy variable which equals one if the firm disclosed quarterly financial statements. NAnalyst is the number of financial analysts who follow the firm. lnMV is a natural logarithm of the firm's market value of equity in million yen. B/M is the book-to-market ratio in percent

Panel A. ILLIQ (Illliquidity Measure)								
	Intercept	QDDum	PIN	NAnalyst	NBond	lnMV	B/M	Adj. R^2
Coef.	0.316	-0.168						0.013
p-value	0.000	0.000						
Coef.	0.116	-0.144	1.097					0.027
p-value	0.000	0.000	0.000					
Coef.	0.243	-0.145	0.745	-0.022	-0.005			0.047
p-value	0.000	0.000	0.000	0.000	0.000			
Coef.	2.699	-0.058	0.021	0.041	0.010	-0.252	0.001	0.223
p-value	0.000	0.000	0.702	0.000	0.000	0.000	0.000	
Panel B. Turn (Monthly Turnover Ratio)								
	Intercept	QDDum	PIN	NAnalyst	NBond	lnMV	B/M	Adj. R^2
Coef.	0.072	0.024						0.006
p-value	0.000	0.000						
Coef.	0.145	0.015	-0.397					0.048
p-value	0.000	0.000	0.000					
Coef.	0.153	0.015	-0.420	-0.001	0.000			0.050
p-value	0.000	0.000	0.000	0.000	0.378			
Coef.	0.252	0.018	-0.441	0.001	0.000	-0.009	0.000	0.054
p-value	0.000	0.000	0.000	0.056	0.376	0.000	0.000	

Table A-1. Adjusted PIN by Duarte and Young and the PSOS Variable

These PIN values are the estimates from the three stage Poisson process as proposed by Duarte and Young (2009), in which the additional information inflow process to influence the systematic order flow is introduced to the original Easley et al. (1996, 2002) model.

Panel A. Adjusted PIN Variables				
	Q1(Apr-Jun)	Q2(Jul-Sep)	Q3(Oct-Dec)	Q4(Jan-Mar)
1996	7.015	8.050	9.730	9.073
1997	8.448	10.094	10.986	8.954
1998	10.544	10.590	9.867	8.273
1999	7.877	9.134	9.136	8.988
2000	8.462	8.872	9.256	8.036
2001	9.111	9.769	10.305	9.424
2002	9.749	11.113	10.175	9.001
2003	9.915	10.002	9.714	10.117
2004	10.291	9.782	10.464	10.531
2005	10.981	11.054	11.171	11.934
2006	11.704	11.313	11.451	11.368
2007	11.685	11.827	11.718	11.977
Panel B. PSOS (Probability of Systematic Order-flow Shock)				
	Q1(Apr-Jun)	Q2(Jul-Sep)	Q3(Oct-Dec)	Q4(Jan-Mar)
1996	14.420	16.005	20.517	13.563
1997	20.430	19.454	20.539	16.931
1998	18.333	21.394	18.824	18.372
1999	19.410	19.516	20.372	21.966
2000	20.399	18.376	24.060	19.382
2001	20.271	21.930	21.230	18.452
2002	20.797	19.042	20.293	17.898
2003	19.940	20.706	20.369	21.532
2004	20.769	20.217	20.468	20.182
2005	19.944	21.503	23.181	24.114
2006	24.416	23.449	23.548	23.564
2007	24.105	24.325	24.795	24.005
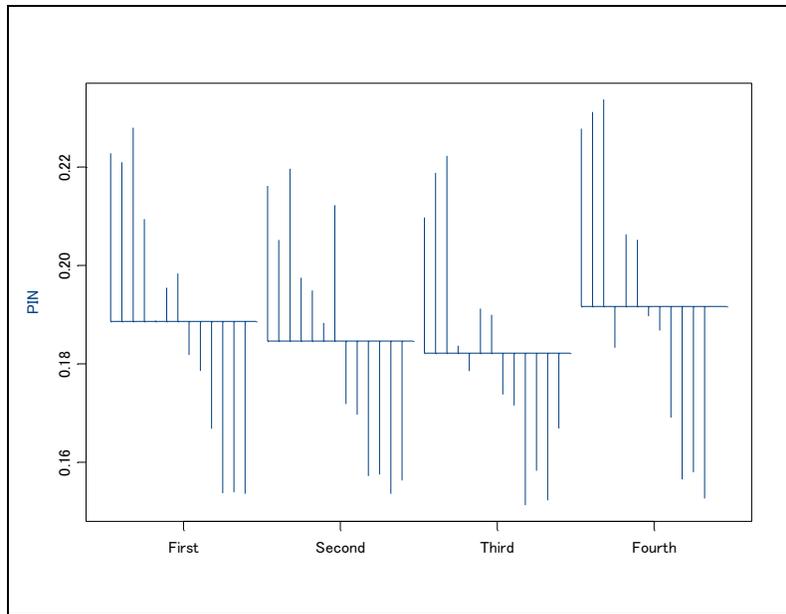
Sampling period is from the first quarter of fiscal year1976 through the third quarter of fiscal year 2008. The vertical lines denote the values of estimated PIN values for each quarter and the horizontal lines denote the average values of quarterly PINs.

Figure 1. Seasonality of the Quarterly Estimated PIN Variables
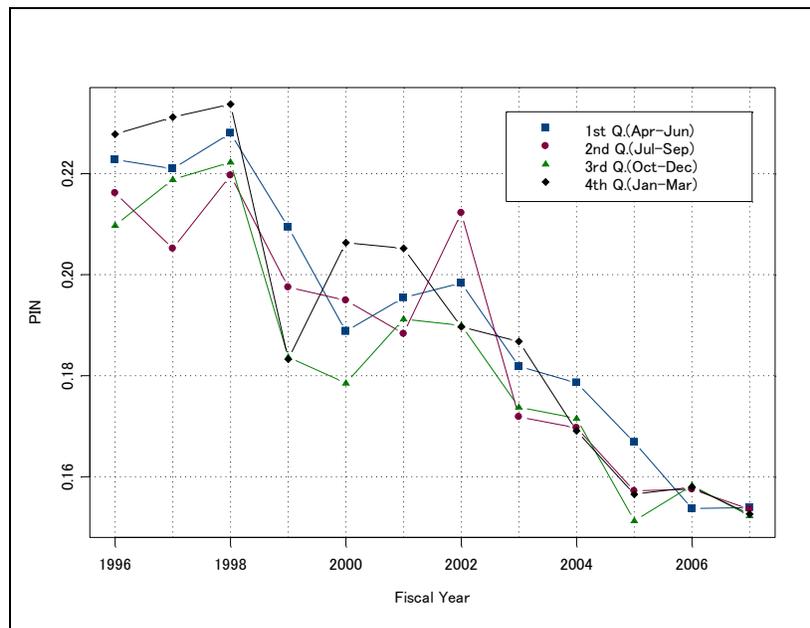
Sampling period is from the first quarter of fiscal year1976 through the third quarter of fiscal year 2008 and the time series of the average PIN value for each quarter are plotted as separate lines.

Figure 2. The Time-series of Estimated PIN Variable: Q1/FY1999-Q3/FY2008

1.5 Corporate Governance

AGENCY THEORY AND MANAGERIAL OWNERSHIP: EVIDENCE FROM MALAYSIA

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Abstract

This paper tests the effect of managerial ownership in relation to agency theory in Malaysian business environment. Besides examining the total managerial shareholdings, this study also examine the association between direct and indirect managerial shareholdings with agency costs. The results of the study indicate that managerial ownership in various segments has inverse relationship with total monitoring costs as predicted in agency theory. This finding is consistent with earlier studies in western countries and supports the convergence of interest hypothesis. This result may be explained by the fact that as the managers are also the owners, there is less conflict, less information asymmetry and less hierarchical organisation structure in the companies, which lead to lower monitoring costs.

Keywords: *ownership structure, managerial ownership, agency theory, monitoring costs.*

1.0   Introduction

The separation of ownership and management functions may lead to the possibility of principal–agent conflicts as the managers may not always act in the shareholders best interests and may misuse the corporate assets (Jensen & Meckling, 1976; Shleifer & Vishny, 1986). This divergence of interest between managers and shareholders may lead to"agency problems", and results in agency costs as described in agency theory (Farrer & Ramsay, 1998). Various factors have been considered to overcome this problem and reduce the costs. Among others is the convergence of interest model suggested by Jensen & Meckling. This model posits that as the agency costs arise as a result of the separation of ownership and control, this cost would be zero if those who owned the company also managed the company (Farrer & Ramsay, 1998). This can be

done by encouraging the managers to own the company's shares, as the interest of the internal and external shareholders are aligned.

When managers own the shares of the firm, they have the incentive to increase the value of the firm rather than shrink as they have entrepreneurial gain in the company (Jensen & Meckling, 1976). It is believed that incentive to consume perquisites declines as manager's share ownership increases because his share of firm's profit increase with ownership while his benefits from perquisite consumptions are constant (Ang, Cole & Wuh Lin, 2000; Fleming, Heaney & McCosker, 2005), and accordingly, the incentive to pursue personal benefits increases when he own smaller portion of the firm's shares (Mat Nor & Sulong, 2007). Furthermore, as the owners are actively engaged in day to day activities of the company (Nimie, 2005), there will be less information asymmetry, less conflicts and less hierarchical organisation structure. This less complex organisation structure reduces the need for assurance and monitoring, thus require less monitoring and agency costs.

Besides that agency theory is also criticised for its ignorance of the existence of social and authority relationship and assumes social life is a series of contract (Johnson & Droege, 2004). It is unknown whether the agency theory findings in western countries have equal impact in Asian organisations (Ekanayake, 2004; Johnson & Droege, 2004). Previous literatures (Conlon & Parks, 1990; HassabElnaby & Mosebach, 2005; Ekanayake, 2004) indicate that there is a possibility that given the cultural differences, the typical nature of agents in agency theory may not be the case with regard to non-western countries. Sharp & Salter (1997) argue that the agency effects are lower in Asia. It is also claimed that there is a limited empirical research that directly tests agency theory in different culture context (Ekanayake, 2004).

337

Thus, this study empirically examines the agency relationship in Malaysian organizations, one of the countries in Asia. Besides being a developing country with an emerging market, Malaysia is chosen in this study because of its unique concentrated business environment. It is claimed that owner managed firms are common among Malaysian companies (Mat Nor & Sulong, 2007).Unlike companies with dispersed shareholdings, these companies are believed to have reduced agency problem and agency costs due to a better match of control and cash flow rights of the shareholders (Abdul Rahman & Mohamed Ali, 2006). Specifically this study focuses on the effect of managerial ownership on the agency costs of Malaysian public listed companies. This study uses the direct measure of agency costs, which are the cost of monitoring the companies as recommended by Malaysian Code of Corporate Governance (FCCG, 2001). This study aims to provide evidence that support or reject prior research findings in western countries relating to the effect of managerial ownership on the agency relationship which is reflected in its agency costs.

This study investigates various ownership shareholdings, which include direct, indirect and total managerial shareholdings and their effect on monitoring costs. The results indicate negative relationship for all categories of ownership, which is consistent with prior studies in western countries. This is supported by the independent t-test which indicates that those companies having managerial ownership in their organizations have significantly lower monitoring costs compared to those without such holdings. Another t-test for those companies with low and high managerial ownership also gives similar result. The analysis relating to the board of directors' shareholdings and monitoring costs also show the same pattern of result.

The remainder of the paper is organised as follows. The next section discusses the relevant literature on the role played by managerial ownership in agency setting and how it affects the agency costs. The methodology employed in this study is outlined in Section 3 and the results of empirical testing are presented in Section 4. The paper ends with the conclusion of the research.

2.0   Literature review

Principal-agent relationship in agency theory

Initially, physical assets defined an individual's net worth to denominate wealth (Carlson, Valdes & Anson, 2004). Examples of such assets are lands. Kings and members or royalty defined their power based on the land that they owned. Later, as the economic activities changed from agricultural to industrial economy, this basis changed from ownership of land to ownership of legal entities. In their discussion of the origin of the word "share ownership", Carlson et al. further claim that as a consequence of industrial revolution, public organisations are established to create goods and services and stocks and bonds are created to support the financing of the new enterprises. These stocks also reflect the ownership of the organisations. If in the past, banks are the custodians of physical assets of their clients (such as coins, jewels, and land deeds), with the full force of industrial revolution, banks begin to "hold shares of ownership" in public organisations, which create the term "shareholders".

With the acceptance of industrial revolutions also, organisations grow bigger, and the owners are no longer the managers of the organizations. It is not practical for the shareholders to make day to day decisions of the organizations and this job is delegated

to the managers. This separation between the owner and managers tends to create agency problems as claim in agency theory.

Agency theory postulates that the firm consists of a contract between the owners of economic resources (the principal) and management (the agents) who is charged with using and controlling these resources (Jensen & Meckling, 1976). The agency relationship between the principal and the agent give rise to agency costs because the managers may not act in the owners' best interest, such as consumption of excessive perquisites and sub-optimal investments (Fleming et al., 2005). Agents normally have more information than principals and this information asymmetry adversely affect the principal's ability to monitor whether their interest are being properly served by the agents (Adams, 1994). The principals want to ensure that their resources are being utilized in the best manner possible, which later will flow back to them in the form of dividend. Whereas the agents are also concern as this would be the measurement of their efficiency in managing the company, and may be the source for the determination of their salary/remuneration in the future.

In the process of discharging the duties, agency theory assumes that the agents and principal will act rationally and they will use the contracting process to maximize their wealth. According to Kren & Kerr (1993), to ensure the efficiency in the contracting process, both principal and agents will incur contracting cost. For instance, to minimize the risk of shirking by agents, the principal will appoint the board of directors (Fama & Jensen, 1983a) and auditors. The board of directors will ensure that the management acts on behalf of shareholders, i.e. increase the wealth of the corporation (Iskandar & Mohd Salleh, 2004). An effective board of directors will provide a measure of reducing the agency problem, which will then lead to transparency of financial reporting and good

governance of the organisation. And, the external auditors will examine the financial statements prepared by the management to ensure their compliance to the standards, rules and regulations required and reflect the true and fair view of the organisation's transactions. Agents on the other hand will incur bonding cost, for example, the cost of internal audit in order to signal to the owner that they are acting responsibly and consistent with their contract of employment (Adams, 1994).

Agency costs and managerial ownership

Prior literature suggests various ways to overcome this agency problem. Among others, it is claimed that managerial shareholdings can reduce and mitigate agency costs (Jensen & Meckling, 1976; Agrawal & Knoeber, 1996; Ang et al., 2000; Chow, 1982; Fleming et al., 2005; O'Sullivan, 2000). They argued that the agency costs of equity arise from the direct expropriation of funds by the managers, consumption of excessive perquisites, shirking, sub-optimal investment and entrenching activities. Thus, earlier studies suggest that managers are encouraged to own the organisations' share to motivate management monitoring (Agrawal & Knoeber, 1996; Fleming et al., 2005). This is because the higher the portion of the stocks, the more responsible is the manager to increase the value of the companies. According to the original agency theory by Jensen & Meckling (1976), and Fleming et al. (2005), equity agency cost is zero when there is a 100% owned manager organisation, and there is a positive relationship between equity agency costs and the separation of ownership and control. As owner manager equity ownership falls below 100%, the equity ownership becomes relatively dispersed. In this circumstance, the manager has a greater incentive for shrinking or the consumption of excessive perquisites. This is due to the fact that although the firm's value falls, the managers only bear a portion of the expense related to their ownership stake (Farrer & Ramsay, 1998). In other words, a lower managerial equity holding is associated with

341

lower incentive and effort exert by the managers in their responsibilities to seek profitable investments. Chow (1982) suggest that when managers own smaller equity stake in their firms they have an increased incentive to falsify financial disclosures, since such disclosures are likely to be utilised by shareholders in setting managers' remuneration.

The incentive to consume perquisites declines as his ownership share rises, because his share of the firm's profits rises with ownership while his benefits from perquisite consumption are constant. It is also suggested that managerial shareholdings help align the interests of shareholders and managers in its convergence of interest hypothesis (Jensen, 1993).

The higher the ownership of the firm by the management, the less the conflicts among the stakeholders, the less the agency problem and cost associated with it (Friend & Lang, 1986; Jensen & Meckling, 1976). This is because the insiders have incentives to protect shareholders interests and need less supervision by the board, since board activity is a costly monitoring alternative (Vafeas, 1999). It is also said that increased agent ownership reduces the need for monitoring as the incentive alignment is enhanced. The convergence of interest model suggested by Jensen & Meckling (1976) claim that an increase in the proportion of firm's equity owned by insiders is expected to increase firm value as the interest of inside and external shareholders are realigned, and consequently there is a reduced need for intensive audit. O' Sullivan (2000) finds that significant managerial ownership results in a reduced need for intensive auditing which may be due to the merging functions of ownership and management, and consequently minimize the monitoring motivation for audit. The auditors are also said to be less inclined to undertake additional testing when managers are also significant equity

holders, since owner managers are less likely to deliberately mislead themselves (O'Sullivan, 2000). Publicly traded firms in which top management has a larger ownership stake experience corporate crime (proxy for agency cost) less frequently (Alexander & Cohen, 1999). Managers also will have more powerful incentives to make value maximising decision about capital structure as their stock ownership is high (Berger, Ofek, & Yermack, 1997). Besides increase incentive to maximise the firm value, holding common stocks also motivate the managers for its underlying voting rights, such as increase their influence on board of directors and hence on the firm's general policy (DeAngelo & DeAngelo, 1985).

However there are also studies which suggest contradict and mix findings, such as Singh & Davidson (2003) who conclude that managerial ownership does not serve as a significant deterrent to excessive discretionary expenses which is used as a proxy for agency cost in their study.

In terms of this ownership structure's association with another monitoring mechanism, that is auditing, it is found that the lower the managerial share ownership in a company, the greater the probability of the company being audited (Tauringana & Clarke, 2000). Another literature claims that agency theory suggests that in the absence of regulation, the propensity of firms to demand independent audit is a function of the extent of the divorce between ownership and control (Chan, Ezzamel, & Gwilliam, 1993). This is supported by Fan & Wong (2005) who claim that external auditors play a monitoring and bonding role in order to mitigate the agency conflict between the controlling owners and the outside investors.

It is also believed that in a manager owned organisation, managers may be excessively risk averse (Fama & Jensen, 1983b), which may lead to their under-investment in risky

343

projects, or induce managers to pursue "safe" strategies (Loh & Venkatraman, 1993). Francis & Wilson (1988) state that where the agency setting has low conflict among contracting parties (such as a manager owned organisation), a lower quality and less costly minimum compliance audits might be demanded from accounting firms with lower reputation for independence and competence. However, in the absence of manager ownership, owners tend to discount the value of their initial investment and lower the management compensation. Managers then have an incentive to choose a higher quality audit as a means of increasing their compensation (Jensen & Meckling, 1976). This is supported by Firth & Smith (1992) who find that the lower the percentage share of ownership that the management have in the company, the greater the demand for Big Eight auditor (high quality auditor).

Consistently, diffusion of ownership increases the cost and effort to affect management policy and to force a change in management. Francis & Wilson (1988) suggest that higher quality audit can be considered as part of the control system that mitigates the relative inability of diffused ownership to directly control management action.

3.0   Data and Methodology

Data and sample

Data for the study was collected using primary and secondary sources. Primary data was collected using cross-sectional surveys which were sent to Malaysian public listed companies. Data collection cannot be done solely by using secondary data, as some of the information needed (such as internal audit costs) for the study is not available from secondary sources (such as annual reports).

The population of the study includes all companies listed on the Main and Second Board of Bursa Malaysia. However, the companies classified under finance sector were excluded in this study because of their unique features and business activities, as well as differences in compliance and regulatory requirements (Yatim, Kent & Clarkson, 2006; Mat Nor & Sulong, 2007)**.** Questionnaires were sent to all 867 companies in the population as at 31 December 2006.

This questionnaire solicits information about the organisation specifically for the financial year ended 2006. Once the questionnaires were returned, the annual reports of those companies with completed questionnaires were scrutinized for further information to be used in the study. The secondary data was hand-collected from the companies' annual reports which were available at Bursa Malaysia's website (http://www.bursamalaysia.com.my).

In the annual report, the Directors' Report, Statement on Internal Control, Corporate Governance Statement, directors' profile, Shareholdings Statistics, Corporate Information, Statement of Directors' Shareholdings, the financial statements and notes to the accounts are scrutinized. Information on directors' shareholding and directors' background can be gathered from the directors' profile, Corporate Governance Statements, Shareholdings Statistics and notes to the accounts. The external audit fees, book value of the assets, total receivables, total inventories, total long term debts and number of subsidiaries can be gathered from the financial statements and notes to the accounts. The information about the existence of the internal audit department is normally included in the Statement of Internal Control; however, it is not mandatory to disclose the internal audit cost. Only 3 companies voluntarily disclose their internal audit costs. Information needed to calculate Tobin's Q and return to total assets (ROA) can be

345

gathered from the financial statements. Data from the annual reports were then transferred to the worksheets.

The information gathered from the questionnaires was also tabulated in the worksheet and further matched and validated with the information obtained from the annual report. This will then address the reliability concern of our survey data as conducted by Anderson, Francis & Stokes (1993) in their study of Australian companies. Non response bias was also conducted for the data collected from the questionnaires.

After considering the incomplete and inconsistence questionnaires, there were 235 usable samples for the study. The data was also inspected for outliers by means of standard regression diagnostics at three standard deviations (as suggested by Hair, Anderson, Tatham & Black, 1998, p. 65). Normality check of the data was also carried out and some of the measures were transformed into logarithm to control for skewed nature of data. As multivariate regression is used to analyse the data in this study, assumptions of multicollinearity, hemoscedasticity and linearity are also tested.

Variable definition

Dependent variable in this study is the monitoring costs of the companies in Malaysian listed companies. Earlier studies use indirect measurement such as asset utilization ratio (Singh & Davidson, 2003), ratio of selling and administration expenses to sales (Singh & Davidson, 2003) and ratio of operating expenses to sales (Ang et al., 2000) as proxies for agency cost incurred by the firms in monitoring their firms. But this study uses measurements that are directly related to these firms in monitoring the shareholders wealth of their companies. Directorship and auditing (internal and external) are specified as monitoring mechanisms in the Code (FCCG, 2001). Thus, the dependent variables in

346

this study involve the costs of these monitoring mechanisms demanded by the organisation in Ringgit Malaysia (RM). However, as the executive directors are in-charged of managing the companies, and the non-executive directors are said to monitor and controlling the opportunistic behaviour of the management (Jensen & Meckling, 1976; Haniffa & Hudaib, 2006), this study does not include executive directors' remuneration as monitoring costs. Hence, total Monitoring (MONITOR) is measured by the sum of organisation investment in non-executive directors' remunerations (DIRREMNED), internal auditors' costs (INTCOST) and external auditors' costs (EXTCOST).

The independent variable in this study is managerial ownership. Three measurements of managerial ownership are used. The main analysis defines managerial ownership as the total percentage of executive directors' shareholding. In order to get a clear picture of the ownership characteristics of Malaysian companies, this study also examine the effect of direct and indirect managerial shareholdings. The analysis was re-estimated by re-defined this variable into percentage of executive directors' direct shareholding only and percentage of executive directors' indirect shareholding only. The controlled variables include in the study are size, complexity, debt structure, performance, risk, growth, listing status and industry.

The following model is used to analyze the relationship between the monitoring costs and managerial ownership:

$$\text{MONITOR} = \alpha_i - b_1\text{MGROWN}_i + b_2\text{RECINV} + b_3\text{COMPLEX}_i + b_4\text{SIZE}_i - b_5\text{DEBTSTRC} - b_6\text{RISK}_i - b_7\text{ROA}_i + b_8\text{GROWTH}_i + b_9\text{LISTSTAT}_i + b_{10}\text{CONSTRASE}_i + b_{11}\text{INDPROP}_i + \varepsilon_i$$

Where:
MONITOR = natural logarithm of total monitoring costs which are the sum of external audit costs, internal audit costs and non-executive directors remuneration

347

α	=Intercept	
MGROWN	=Percentage of executive directors' shareholdings	
RECINV	=(Inventories and Receivables)/ Total assets	
COMPLEX	=natural logarithm of no of subsidiaries (including its head-office)	
SIZE	=natural logarithm of total assets	
DEBTSTRC	=Long term debt / Market value of the firm	
RISK	=1 if have loss in current year, and 0 otherwise;	
ROA	=Profit before interest and tax / Total Assets	
GROWTH	=Market value of the firm / total assets	
LISTSTAT	=1 if listed in the main board, and 0 otherwise;	
CONSTRASE	=1 if the company is in consumer, trading or services sector, and 0 otherwise;	
INDPROP	=1 if the company is in industrial, construction or property sector, and 0 otherwise;	
ε_i	= error term	

4.0   Results and discussions

Descriptive statistics

Panel A and Panel B of Table 1 presents the descriptive statistics for the variables used in the study. Panel A reports those for continuous variables and Panel B presents those for dichotomous variables.

Table 1 : Descriptive statistics of variables

Panel A:Continuous variables				
Variables	**Mean**	**Std dev**	**Minimum**	**Maximum**
INTCOST (RM)	280,896	971,753	0	10,000,000
EXTCOST (RM)	263,487	732,805	15,000	9,700,000
NEDREMM (RM)	302,249	435,358	0	4,045,000
MONITOR (RM)	846,632	1,799,424	56,900	21,010,000
MGROWN	0.272734	0.2323824	0.0000	0.8637
DEBTSTRC	0.1468	0.1584435	0.0000	0.9328
RECINV	0.308798	0.1945093	0.0019	0.8046
COMPLEX	19.74	34.801000	1.0000	445.00
SIZE (RM)	1,564,597,791	5,679,828,495	18,261,685	65,092,100,000
ROA	0.010054	0.2258620	-3.0172	0.2037
GROWTH	1.051495	0.7091715	0.3081	7.9680
Panel B : Dichotomous variables				
	Yes	**%**	**No**	**%**
LISTSTAT	175	75	60	25
RISK	46	20	189	80
CONTRASE	78	33	157	67
INDPROP	126	54	109	46

INTCOST = Total internal audit cost in RM; EXTCOST = Total external audit costs in RM; NEDREMM = Total NED remunerations in RM; MONITOR = Total monitoring costs in RM; MGROWN = Executive directors' shareholdings (%);DEBTSTRC = Long term debt to market value of the firm; RECINV = Ratio of inventories and receivables to total assets; COMPLEX = number of subsidiaries(including the head office); SIZE = Total assets in RM; ROA = ROA; GROWTH = Tobin's Q; RISK = Current year loss(Dummy); LISTSTAT = Board listing (Dummy); CONSTRASE = Companies in consumer, trading and service sectors (Dummy); INDPROP = Companies in industrial, constructions and property sectors (Dummy).

Panel A shows that non-executive directors' remunerations constitute the largest component of monitoring costs, followed by internal audit costs and external audit costs ranking second and third respectively. The mean percentage of shareholdings by the managers is about 27%, which is approximate the 34% average of Haniffa & Hudaib (2006) findings using Malaysian data. The ratio of long term debt to the market value ranges from 0% to 93% with the average close to 15%. The descriptive statistics also show that the sample companies cover a wide range of companies, some moderately small and some relatively large, range from those with RM18 millions to RM65,092 millions of total assets. The complexity of the companies in terms of their operations range from simple, where there are companies with only their head office with no subsidiary, to more complex. The complexity of their assets' compositions also reflect the same pattern, the ratio of inventories and receivables to total assets range from 0.19% to 80% and the average is about 31%. On average, the respondent companies have the total assets of RM1,564 millions and 20 subsidiaries, while the average Tobins' Q is approximately 1.05. Panel B reports that about 75% of the companies are listed in the main board of the Bursa Malaysia, and the balance in the second board. Only 20% of the companies suffer a loss in the current year.

Table 2 : Normality test statistics of sample companies

Variable	Mean	Minimum	Maximum	Std Dev	Skew ness	Kur tosis
MONITOR	12.9841	10.949	16.861	1.0005	0.864	0.922
MGROWN	0.2727	0.0000	0.8637	0.2324	0.210	-1.230
REVINV	0.3088	0.0019	0.8046	0.1945	0.329	-0.888
COMPLEX	2.4998	1.0000	445.00	0.9091	0.232	1.430
RISK	0.2000	0	1	0.3980	1.544	0.386
SIZE	19.744	16.720	24.899	1.4171	0.911	0.887
DEBTSTRC	0.1468	0.0000	0.9328	0.1584	1.860	4.366
LISTSTAT	0.7400	0	1	0.4370	-1.130	-0.731
CONSTRASE	0.3300	0	1	0.4720	0.718	-1.497
INDPROP	0.5400	0	1	0.5000	-0.146	-1.996
ROA	0.0101	-3.0172	0.2037	0.2259	-10.814	140.20
GROWTH	1.0515	0.3081	7.9680	0.7092	5.424	42.856

Note: Figure in the parenthesis is the P value
Variable definition:

MONIITOR = Total monitoring costs(ln); MGROWN = Executive directors' shareholdings (%); DEBTSTRC = Long term debt to market value of the firm; SIZE = Total assets(ln); COMPLEX = number of subsidiaries(ln); RECINV = Ratio of inventories and receivables to total assets; ROA = ROA; RISK = Current year loss(Dummy); GROWTH = Tobin's Q; LISTSTAT = Board listing (Dummy); CONSTRASE = Companies in consumer, trading and service sectors; INDPROP = Companies in industrial, constructions and property sectors.

The results of standard tests on skewness and kurtosis in Table 2 indicate that there is no problem with normality assumption[47]. A visual check for normality using histogram and normal probability plots is also carried out. All the histograms appear to be reasonably normally distributed and the normal distribution of the probability plot forms a straight line and the values appeared to fall approximately on this normality line. Thus, these variables can reasonably be considered as normally distributed. In summary, the model does not violate the basic OLS assumptions and could be used to test the expected hypotheses.

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[47] The data is said to be normal if the standard skewness is within ±1.96 and standard kurtosis is between ±3.0 (Mat Nor & Sulong, 2007; Abdul Rahman & Mohamed Ali, 2006; Haniffa & Hudaib, 2006).

Table 3 presents the correlation matrix for the dependent and independent variables. The result indicates that there is no multicollinearity problem, as the correlations are below the threshold value of 0.8 (Gujarati, 2003, p. 359).

Table 3 : Correlation matrix

Variable	MONITOR	MGROWN	DEBTSTR	RECINV	RISK	SIZE	COMPLEX	ROA	GROWTH	LISTSTAT	CONSTRASE	INDPROP
MONITOR	1.00											
MGROWN	-0.26***	1.00										
DEBTSTRC	0.24***	-0.01	1.00									
RECINV	-0.21***	0.19***	-0.37***	1.00								
RISK	-0.25***	-0.03	0.07	0.00	1.00							
SIZE	0.82***	-0.21***	0.42***	-0.40***	-0.23***	1.00						
COMPLEX	0.61***	-0.10*	0.22***	-0.14**	-0.04	0.52***	1.00					
ROA	0.15**	0.07	0.02	0.05	-0.43***	0.20***	-0.05	1.00				
GROWTH	0.09*	-0.13**	-0.16**	0.00	0.01	0.05	-0.04	-0.50***	1.00			
LISTSTAT	0.32***	-0.13**	0.06	-0.23***	-0.28***	0.47***	0.21***	0.18***	0.06	1.00		
CONSTRASE	0.11*	-0.11*	-0.02	0.09*	-0.10*	0.02	0.09*	0.07	0.04	0.00	1.00	
INDPROP	-0.15**	0.10*	0.01	0.09*	0.09*	-0.09*	-0.07	-0.08	-0.08	-0.09***	-0.76***	1.00

Notes: *** significant at 1% level
** significant at 5% level
* significant at 10% level
(See variable definition in Table 2)

(i) Main results

Column two of Table 4 presents the multiple regression analysis used to test the main model. The adjusted R squared for the model is 0.753 and the F-value of 66.022 is significant (p< 0.000). The value of the adjusted R square is very high, as well as statistically significant, which suggests that it is a good predictive model of monitoring costs for Malaysian data. It means more than 75% of the variation in the monitoring costs can be explained by the model. This adjusted R squared is also very much higher compared to a similar study by Anderson et al. (1993) on monitoring cost, which use Australian data, but with only one independent variable (assets in place), where its adjusted R-squared is 0.423.

The independent variable, managerial ownership appears to have significantly negative relationship with monitoring costs as predicted by agency theory. This result implies that the greater the managerial ownership in an organisation the lower is its total monitoring costs. This finding is consistent with earlier studies in western countries by Jensen & Meckling (1976), Fleming et al. (2005), Ang et al. (2000), Jensen (1993), Nimie (2005) and Friend & Lang (1986).

This result is also consistent with the convergence of interest model which claim that an increase in the proportion of firm's equity owned by insiders is expected to increase firm value as the interest of inside and external shareholders are realigned, thus result in less conflict among the shareholders. Furthermore there will be less information asymmetry and less hierarchical organisational structure as the managers are now the owners, and are actively engaged in day to day activities of the organisations (Nimie. 2005). This is

agreed by Ang et al. (2000) and Fleming et al. (2005) who claim that the managers' incentive to consume perquisites declines as their ownership share rises because his share of the firm's profits rises with ownership while his benefits from perquisite consumption are constant. A local study by Mat Nor & Sulong (2007) also argues along the same line by claiming that when managers own a smaller portion of the organisation's share, they have greater incentive to pursue personal benefits and less incentive to maximise firm values. In addition, holding common stocks also motivate the managers for its underlying voting rights, such as increase their influence on board of directors and hence on the firm's general policy (DeAngelo & DeAngelo, 1985).

Furthermore, this result may also be more pronounced in Malaysian concentrated business environment, where owner-managed companies are common among listed companies in Malaysia (Mat Nor & Sulong, 2007), especially with family businesses (as claimed by Haniffa & Hudaib, 2006). This concentrated agency setting is expected to have low conflict among the contracting parties (Fleming et al., 2005; Fama & Jensen, 1983a), thus lead to low risk (Francis & Wilson, 1988) and low monitoring costs. They tend to run the businesses themselves or appoint family members, and they are concerned with the survival of the organisations, not only over their lifetime, but also with the well-being of the next generations (Bhattacharya & Ravikumar, 2001). Thus, they will really consider the monitoring costs incurred by the companies and the allocation of the resources in order to ensure the future survival of the organisations.

Table 4: Cross sectional OLS regression of monitoring costs on managerial ownership and control variables

VARIABLES	Total ED shareholding is considered	Only direct shareholding is considered	Only indirect shareholding is considered	Total BOD shareholding is considered	Segmented the companies to those with high and low managerial shareholding	Segmented the companies to those with and without managerial shareholding
INTERCEPT	1.833**	1.741**	1.525**	1.844**	1.760**	1.977**
	(2.786)	(2.621)	(2.343)	(2.801)	(2.678)	(2.928)
MGROWN	-0.400**	-0.506**	-0.230*	-0.395**	-0.166**	-0.257**
	(-2.708)	(-1.978)	(-1.535)	(-2.729)	(-2.426)	(-2.597)
DEBTSTRC	-0.502**	-0.518**	-0.562**	-0.516**	-0.538**	-0.482*
	(-2.028)	(-2.072)	(-2.259)	(-2.087)	(-2.174)	(-1.933)
RECINV	0.510**	0.473**	0.458**	0.500**	0.481**	0.513**
	(2.536)	(2.350)	(2.270)	(2.494)	(2.399)	(2.544)
RISK	-0.180*	-0.157	-0.171*	-0.173*	-0.172*	-0.204**
	(-1.864)	(-1.619)	(-1.747)	(-1.790)	(-1.775)	(-2.079)
SIZE	0.544***	0.542***	0.558***	0.545***	0.547***	0.541***
	(14.950)	(14.546)	(15.337)	(15.037)	(15.037)	(14.790)
COMPLEX	0.268***	0.273***	0.264***	0.266***	0.269***	0.283***
	(6.058)	(6.107)	(5.896)	(6.017)	(6.052)	(6.321)
ROA	0.084	0.118	0.057	0.074	0.096	0.033
	(0.409)	(0.569)	(0.273)	(0.360)	(0.465)	(0.160)
GROWTH	0.078	0.094	0.080	0.070	0.075	0.067
	(1.315)	(1.582)	(1.332)	(1.189)	(1.266)	(1.131)
LISTSTAT	-0.248**	-0.228**	-0.251*	-0.250**	-0.251**	-0.255**
	(-2.838)	(-2.586)	(-2.830)	(-2.856)	(-2.854)	(-2.900)
CONSTRASE	-0.042	0.009	-0.034	-0.042	-0.035	-0.062
	(-0.375)	(0.079)	(-0.306)	(-0.383)	(-0.313)	(-0.555)
INDPROP	-0.147	-0.115	-0.151	-0.158	-0.149	-0.153
	(-1.405)	(-1.092)	(-1.422)	(-1.509)	(-1.423)	(-1.461)
R-squared	0.765	0.762	0.760	0.765	0.764	0.764
Adj R-squared	0.753	0.750	0.748	0.754	0.752	0.753
F-Statistics	66.022	64.741	64.157	66.064	65.479	65.802
P-value	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

(See variable definition in Table 2)

The finding of this study is also consistent with a study by Nikkinen & Sahlstrom (2004) who conduct an analysis of audit pricing (one of the monitoring costs in this study) and its relationship with agency theory by using data from seven countries including Malaysia. Consistent with the theory, they find a significant negative relationship of managerial ownership with audit fees at 5% level of confidence for Malaysian data.

(ii) Further tests

In order to get a clear picture of the ownership characteristics of Malaysian companies, sensitivity analysis are also carried out. The proxy for managerial ownership (MGROWN) is defined as the percentage of executive directors' total shareholdings. As a test of sensitivity, the main model is re-estimated with the independent variable MGROWN redefined as the percentage of executive directors' direct shareholdings only. The result for the model is not affected by this alternative. As expected in agency theory, the result in column three of Table 4 appears to suggest that the greater the direct managerial control in the organisation, the lower is the relative expenditure in total monitoring.

Another test of sensitivity is conducted where MGROWN is redefined as the percentage of executive directors' indirect shareholdings only. Again, the result for the model is not affected by this alternative. As expected in agency theory, the result indicates that indirect managerial control in the organization has an inverse relationship with total monitoring costs (refer column four of Table 4).

Alternatively, the proxy for managerial ownership (MGROWN) is redefined as the percentage of board of directors' total shareholdings which includes both executive and non-executive directors' shareholdings. The result for the model

in column five of Table 4 is not affected by this alternative. The result suggests that the greater the managerial control (by both executive and non-executive directors) in the organization, the lower is the relative expenditure in total monitoring costs in directorship and auditing. The direction of the relationship is as predicted in agency theory.

Further tests in column six and seven of Table 4 are carried out by segmenting the sample companies into (a) companies with high and low managerial shareholdings by using the average managerial shareholdings in Table 1 as a cut-off point; and (b) those companies which have managerial shareholdings and those with no managerial shareholding. The main model is re-estimated using these alternatives. The re-estimated results for both alternatives indicate that managerial ownership has negatively significant relationship with monitoring costs at $p < 0.01$, while other variables remain the same.

Independent t-tests are also carried out using the same segmented data in (a) and (b). Both test results show significant results. The result of the test reveals that the monitoring costs of companies which have high managerial shareholdings are significantly different from those with low shareholdings (at p-value < 0.00). The average monitoring costs for those with high and low shareholdings are RM533, 436 and RM1,196,508 respectively. The t-test result for those companies with and without managerial shareholdings is also significant and shows the same pattern of result. The average monitoring costs of companies which have managerial shareholdings is RM656, 491, which is less than RM1,897,687, for those companies without such shareholdings.

5.0   Conclusions

Overall, the findings from this study indicate that, consistent with the earlier findings in western countries (Jensen & Meckling, 1976; O'Sullivan, 2000; Ang et al., 2000; Fleming et al., 2005; Nikkinen & Sahlstrom, 2004; Nimie, 2005), managerial ownership is a significant factor in influencing the companies' monitoring costs. The result also suggests that managerial ownership in Malaysian companies has a significant negative relationship with total monitoring costs as predicted by agency theory and convergence of interest hypothesis. Sensitivity analysis conducted on the direct managerial shareholdings only and indirect shareholdings only also reveal the same pattern of results.

However, the conclusions drawn from this study should be interpreted in a limited way, which would potentially represent opportunities for further investigation in future research. First, this study is a cross sectional study, where it uses one year data in 2006 only. Future research could extend the study to include more years of data, thus longitudinal studies can be conducted and further investigation on the impact of the organizational attributes on the demand for monitoring mechanisms in the short and long-terms can be analyzed. Secondly this study only examines one type of ownership structure which is the managerial ownership. Future research can also examine other forms of ownership structure which is unique to Malaysian companies, such as family ownership and government-link companies, in relation to their relationship with the demand for monitoring mechanisms.

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ANTECEDENTS OF CEO SELECTION IN MALAYSIAN PUBLIC LISTED COMPANIES

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Abstract

This study examines factors that influence Chief Executive Officer (CEO) selection whether from inside or outside of Malaysian Public Listed Companies. Among variables tested are firm performance, board attributes, ownership structure and incumbent power. Results indicate that firms that experienced high performance, had high proportion of outside board members and had high proportion of board members with multiple directorships are tend to select outsider as a successor. In contrast, firms that controlled by family and management and disposition their incumbent are more likely to select insider as a successor. These results were derived based on logit regression analysis on 142 succession events over a four- year period starting from 2002 to 2005.

INTRODUCTION

Top management succession events are of central concern in organizational theory. They are universal as when organizations survive long enough, they must somehow experience succession. The selection of the successor either from inside or outside the company will be determined by the board of directors. Once the board of directors has made the decision to hire a new top management, the next step is to find the right person. The board may decide to limit its search to inside candidates or it may decide to broaden its search by considering outside candidates.

A review of the literature on the succession subject suggests several viewpoints related to the selection decision such as adaptive view, inertial view, scapegoating view

and contingency view (Cannella & Lubatkin, 1993). The proponents of adaptive view argue that organization change or adapt in response to environmental challenges and that CEO selection decisions represent an important adaptation mechanism. According to the adaptive view, poor performance will increase the likelihood of top management turnover and when performance is poor, board of directors will favor outside candidates as they believe that outsiders are more capable of changing the mission, objectives and strategies of the organization than the insiders.

The second view of succession is inertial view and the proponents of this view believed that the selection process is relatively un-adaptive because of the large number of persons and vested interests involved (Shen & Cannella, 2002). Environments tend to change but the organizations, particularly large ones, resist changing, even when faced with poor performance. Thus, these organizations tend to select insider candidates which lower the link between organizational performance and outsider selection.

The third view of succession is scapegoating view. Boeker (1992) provides evidence that powerful CEOs, when confronted with poor performance, may try to deflect the blame onto weaker subordinates. These weaker subordinates are then dismissed while the CEO remains. The last view of the succession is a contingency view which is based on the sociopolitical approach to the CEO succession. Advocates of this view suggest that several sociopolitical influences moderate the relationship between performance and director decision making, causing the directors of different firms to react differently to similar performance information (Cannella & Lubatkin, 1993).

Based on CEO selection model suggested by Cannella and Lubatkin (1993), the motivation of this study is to adapt the same method with a few modifications to determine how these above mentioned factors influence the CEO selection in

363

Malaysian Public Listed Companies (PLCs). Malaysia is of interest not only because it is a developing country with an emerging capital market but also because of its unique corporate governance structure. The board of directors' structure follows the Anglo-American model while the ownership structure is more towards the Franco-Germany model, which concentrates more on family ownership and state or government ownership. Given an environment of Malaysian companies which are frequently held closely by founding family and relatively poor enforcement of shareholder's legal right, which is often thought to be associated with poor corporate governance, naturally leads to the question whether the CEO selection in Malaysian companies is a line with CEO selection in other companies around the world. Thus, this study tends to examine what are among factors that influence CEO selection in Malaysian public listed companies.

THEORETICAL DEVELOPMENT

Inside and Outside Succession

Different origins of the successor will contribute to different consequences. Pfeffer (1981) claims that the replacement of top management whether from internal or external sources can critically enhance or diminish the power of the organizational members and can also have important consequences for an organization's future strategies and structure. The definition of insider or outsider in this study follows the definition proposed by Dalton and Kesner (1985). They defined inside successor as a manager or employee promoted from within a firm and an outside successor as a newly appointed top management from outside the firm.

Corporate Performance and CEO Selection

Past performance may influence CEO's selection process. When choosing a new CEO, the board of directors will consider the abilities of each candidate that suit the competitive situation faced by the firm. Candidates with the abilities suited for a

continuation of the firm's current policies are more attractive when a firm is performing well than when it had performed poorly. Thus, the most suitable candidates for well performing firms are the insiders who will help to develop and implement these continuation policies. In addition, insiders often posses more of human specific capital as they have been working with the firm for a longer period. Furthermore, they may also have invested in firm's asset that they believed to be more valuable under their management than under others' management (Parrino, 1997).

On the other hand, candidates who are better able to change the direction of a firm are more attractive when things are not going well. Outside candidates who often have broader exposure and experience gained through their employment at other firms will introduce alternative ways to run a firm. Although outsiders generally possess less firm-specific human capital than insiders, the magnitude of this differences and the relative cost of inside and outside succession is likely to vary across industries. Boeker (1992) claims that the first and most frequently mentioned theory on succession focuses on the relation between company's past performance and the source of appointment. Lauterbach,Vu and Weisberg, (1999) prove that past performance affects successor choice. Their Pearson correlation supports their hypothesis that the poorer the firm's performance, the more likely are external successions. Their empirical evidence shows that firms in the lowest performance quintiles (poor performer) appoint mostly or about 60% from outside. In contrast, top performers tend to appoint from inside with the frequency of 82% of internal succession. Their findings support the argument that firm with poor performance needs to make some changes and the external succession becomes more likely. This is because the external succession is believed to conceive and implement fresh initiatives (Cannella & Lubatkin, 1993).

In contrast, Parrino (1997) and Dalton and Kesner (1985) argue that poor performance will lead to internal selection because it is not easy for the firms especially the larger ones to change their existing structure and policies due to many interest and power vested in these firms. In addition, Chung et al. (1987) also provide inverse evidence as they found high-performing firms are more likely to hire CEOs from outside the organization than are low-performing firm. From their sample of 65 low performing firms that had CEO changes, only nine solicited CEO from outside. In contrast, of 34 high-performing firms that had CEO changes, 10 (29%) hire outsiders.

Despite the inconclusive result from previous studies in terms of who is the best candidate, an insider or an outsider, according to the adaptive view it is reasonable to believe that the owner of poor performing firms will prefer an outsider as they perceive that an outsider will bring some changes to their companies, including the improvement of their companies' performance (Cannella & Lubatkin, 1993; Booker & Godstein,1993).

H1: Poorly performing firms are more likely to appoint their new top management

from external sources.

Based on conventional wisdom, it was held that high-performing firms should hire insiders to maintain superior performance, while low-performing firms should hire outsiders to turn around poor performance. However, empirical evidence is mixed. Due to the inconclusive result, studies by Boeker and Goodstein (1993) and Cannella and Lubatkin (1993) suggest that besides poor prior performance, other factors such as board attributes, ownership concentration and incumbent power do moderate the relationship between poor prior performance and outside succession.

Board of Directors' Attributes and CEO Selection

Board of directors is a collective entity and each of its members as individuals, has a fiduciary duty to the shareholders, and as a result is accountable to the shareholders. The main function of the board is to act as the representative of the shareholders and as the central body for decision making in a company. There are few board attributes that might influence the change of top management such as board size, board composition, board leadership and board members' multiple directorships.

Board Size and CEO Selection

Size refers to the number of directors who serves on the board (Zahra & Pearce, 1989). Scholars suggest that large board is more superior to the small ones because big groups have more capabilities and resources to solve group tasks. Larger firms are likely to benefit from having a larger board of directors because they have more external contracting relationship. Similarly, the governance of the firm would be more difficult when firm diverse its operation and required more insiders to provide specific information. In addition, this kind of firm might also require more outsiders in the board since broader skills would be required to adequately monitor the firm's multiple business line.

Further, Haleblian and Finkelstein (1993) explain that large groups can enhance problem-solving capabilities by increasing the amount of information that can be absorbed and recalled. Besides, larger board will increase the numbers of potential solution strategies and critical judgment to correct errors in inference and analysis. In addition, it will also increase the range of perspectives brought to bear on problems. Haniffa and Cooke (2005) argue that bigger boards may be constructive for some

367

companies as they provide diversity that would help companies to secure critical resources and reduce environmental uncertainties.

In contrast, Borokhovich, et al. (2006), claim that a small board is more effective than a larger one in making executive replacement decision. However, the authors add that due to small group members, the source of information, experience and contact with outside parties will be limited, which may cause the small groups to face difficulty in finding suitable candidates for the replacement especially from outsider. Therefore, larger network formed by a large board committee will enable them to find a suitable candidate to suit the vacant post. As board had more internal and external information about the firm, the board of directors in poor performing firms may have a higher tendency to select to an outsider as they believed that the outsider can improve the performance of the company via some changes made by outsider.

H2: Firms that have large board size will be more likely to appoint an outside successor.

Board Composition and CEO Selection

The composition of board has an impact to the internal control system of the firm and it is proved that a balanced board including both inside executives and outside executives will enhance the board's role as an internal control mechanism. With respect to the top management selection decision, agency theorists predict that inside directors tend to select the insider and oppose external candidates. The reason is because the internal candidates may add value to the firms since they are already involved in developing and implementing firm's current policies (Khurana, 1998). Due to their knowledge and involvement, the internal candidates are also the potential candidates for the top management positions.

368

A consistent statement was also proposed by Boeker and Goodstein (1993), who argued that managers in low performing firms will attempt to protect their interest and positions. Similar argument was also discussed by Mizruichi (1983) as he states that CEO succession process is inversely related to the proportion of insiders on board. When board is dominated by insiders, they will choose a CEO who poses a minimal threat of disruption and the most suitable person is typically someone within the firm whom they already know. As a result, firms with poor performance and controlled by more insiders in board composition tend to select insider for their job and interest security.

In contrast, agency theory also states that a board can potentially exercise control over managers and suggests that outsider dominated boards are acting more independently in making the CEO selection decision. Therefore, it is expected that the higher the proportion of the outside board members, the more likely it is that an outsider will be selected as the successor.

H3: Firms that have high proportions of outside board members will be more likely to appoint an outside successor.

Board Leadership and CEO Selection

Advocates of stewardship theory suggest that the joint structure provides unified firm leadership, and removes any internal or external ambiguity regarding who is responsible for firms, process and outcomes. Haniffa and Cooke (2002) claim that efficiency in monitoring management can be enhanced through chairman-CEO duality as less contracting is needed and information asymmetries is reduced. However, Pi and Timme (1993) claimed that cost-efficiency and return on assets are lower when the

CEO is also the Chairman. The argument is because the CEO/Chairman will have concentrated power base which will allow the CEO to make decisions for his/her own-self interest at the expense of shareholders.

Morck et al. (1988) suggest that the number of titles held by a single individual may indicate a power vested by that individual. Regarding the selection of the successor, Cannella & Lubatkin (1993) claim that a CEO who holds both Chairman and CEO position, will increase the power of the incumbent CEO. Due to the power that they have, they will intervene during the selection of the new successor. They tend to nominate a potential candidate and as to maintain their status quo, they may select an insider as the successor. Thus;

H4: Firms that separate both CEO and chairman titles will be more likely to appoint an outside successor.

Board Multiple Directorships and CEO Selection

Social network theory suggests that managers with multiple directorships are perceived to be more prestigious in their social environment and have more power relative to the board of directors since this power is derived from the recognition given by outsiders (Phan & Hoon, 1995). Meanwhile, Pfeffer and Salancik (1978) view board with multiple directorships as an instrument for reinforcing intercorporate exchanges. Fairchild and Li (2005) discuss that a board which consists of directors who hold more than one directorship will be considered as a high quality board due to the skills and power obtained. These skills and power are believed to contribute in guiding and evaluating the managerial behavior of the corporation.

In the case of selection process, if the board decides to hire an outside candidate, the main question that arises is how to find the suitable candidate. One possible answer to that question is a multiple directorships. As explained by Haniffa & Cooke (2005), a director with multiple directorships is viewed as an information provider, whether inside or outside the organization. The multiple directorships will provide useful information about the external candidates that have a potential to fill the vacant place. This statement is supported by Khurana (1998) as he claims that directors who sit in more than one board are viewed as a communication network which can facilitate the exchange of information. Due to convincing suggestion by board regarding who is the best candidate, low performing firms which has board member with multiple directorships is expected to favor an outside successor than an inside one.

H5: Firms that have board members with multiple directorships will be more
likely
to appoint an outside successor.

Ownership Structure

Ownership structure significantly affects the likelihood of a change in top executive as it has an impact on both internal monitoring efforts and the effectiveness of control monitoring efforts. This study will on focus on how family ownership and managerial ownership influence the CEO selection in Malaysian PLCs.

Family-controlled Firms and CEO Selection

Family-controlled firms normally planned the succession of their top management by electing the heir apparent to be groomed up. This action is taken in order to make sure that their business empires will continue under the same family management. In the case of family controlled corporations, profitability is not the only goal (Allan & Panian

1982). Direct control by a family member, with all the power and privileges that this control confers on the other members of the family, may became a goal in itself. Indeed, controlling families may be willing to sacrifice some degree of corporate profitability in order to retain some degree of direct family control over the corporation. The similar argument was raised up by Chami (1997) who argued that family values like trust, altruism and paternalism can create an atmosphere of love for business and a sense of commitment. Therefore, due to commitment and loyalty, even in the case of poor performance, the family-controlled firms will select one of their family members as the successor.

H6: Firms that are controlled by families will be more likely to appoint an inside successor.

Managerial Ownership and CEO Selection

Agency theory discusses that there will be a convergence of interest between agent and principal. One way to solve this problem and to make the top management's interest align with shareholders' interest is by allowing the top management to have some shares in the company. As the management owns some portion of company's share, they are now becoming the owners of the firms. As a result, they will put in their best efforts to enhance the firm's performance in order to maximize their own wealth.

Managers who own a significant amount of ownership in firms may influence the selection of the successor and they will have a higher tendency to naming an insider as a successor (Boeker 1992; Boeker & Goodstein, 1993). They also suggest an insider who will be less likely to initiate such large-scale changes as the dismissal of managers. Based on this argument, Boeker and Goodstein (1993) predict that poorly performing firms with high proportions of ownership by management will be less likely

to choose an outside successor. Consistent with their prediction, their results revealed that there is a negative relationship between outside successor and managerial ownership.

A study by Shen and Cannella (2002) also provides a similar result as the researchers found that managerial ownership plays an important role in heightening the likelihood of CEO dismissal followed by inside selection. This view implies that, because of the fear of losing their jobs and their power, the managers tend to select an insider to become the successor, who turns out to be among their click member. Therefore, in the case of low performing firms, the board believed that they need to switch to the outsider, but the desire for certainty and job security will prohibit them from selecting the outsider (Boeker, 1992). Thus, the insider will be their choice for the successor.

H7: Firms that are controlled by management will be more likely to appoint inside

successor.

Turnover Type and CEO Selection

In the selection process, turnover type might also influence the origin of the successor. Based on conventional wisdom, it was held that low-performing firms which are involved in forced turnover should hire outsiders to turn around the poor performance. However, empirical evidence is in contrast with the adaptive view of succession which predicts that forced turnover will lead to outside succession. For example, a study by Parrino (1997) who divided turnover into forced and voluntary, found that forced turnover due to poor performance lead to more internal succession than external succession. Based on 127 sample of forced turnover related with low corporate

performance, 64 or 50.4% were replaced by insiders. Meanwhile, of the 850 CEOs who depart voluntarily, 766 or 90.1% were succeeded by the insiders. A similar finding was reported by Shen and Cannella (2002) as they found that 38 out of 65 dismissed CEOs (58%) in their study were succeeded by insiders. The authors claimed that their result is not in line with the adaptive theory due to power dynamics within top management themselves. This power had influence the selection process of the successor which leads to inside succession rather than outside succession.

H8: Firms that experience forced turnover will be more likely to appoint an insider

than an outsider as a successor.

Predecessor Disposition and CEO Selection

Cannella and Lubatkin (1993) claim that disposition or the change in position from one position to another within the firm signals that the incumbent knowledge and expertise are still needed by the firm. Friedman and Singh (1989) state that firms with a healthy financial performance tend to retain their incumbent top management whereas the poor performing firms tend to dismiss their top management. As the incumbent top management is   still holding a post in the firms, they might also influence the selection of the successor. Firms that retain the former manager signal their preferences for some continuity. Therefore, in the case of the successor selection, an insider is more preferable than an outsider (Lauterbach, Vu & Weisberg, 1999). The reason is the insider will continue the existing policies and strategies established by the firm. Despite facing a performance problem, firms that disposition their incumbent top management are expected to select an insider due to their security and other board members security (Boeker, 1992).

H9: Firms that disposition their incumbent top management will be more likely

to

appoint an inside successor.

METHODS

This study will focus on CEO succession during four years interval starting from 2002 to 2005, which is after the financial crisis and surrounding the publication of Malaysian Code of Corporate Governance (MCCG) in March 2000. Year 2002 is selected as a starting year following to the year of financial crisis in 1997-1998 and the implementation of MCCG. A large number of companies suffered a financial distress during the 1997-1998 periods and are expected to reorganize its financial and operation policy in order to expand their businesses.

Measures

Unit analysis of this study is CEO succession in Malaysian PLCs. The population of this research comprise of companies that are traded and listed on the Main Board and Second Board of Bursa Malaysia including both good and low performing firms. There were 142 succession events occurred during four-year period for both Main and Second Board of Bursa Malaysia.

Dependent Variable: Inside or outside succession

The dependent variable of interest in this study is whether a CEO successor came from inside or outside the firm. This data is available from the announcement made by the company in the Bursa Malaysia website regarding the change of firm's management team. The information will disclose the profile of the successor including his or her previous position before being elected as the new CEO. Successor origin, measured for each firm each time a succession occurred is coded as 1 if the successor is from

outside the firm and 0 if otherwise. The definition of insider or outsider in this study follows the definition proposed by Dalton and Kesner (1985). They defined inside successor as a manager or employee promoted from within a firm and an outside successor as a newly appointed top management from outside the firm.

Corporate Performance

This study employed two categories of performance measurements which are accounting based (ROA) and market based performance (Tobin's Q). The ROA is calculated as the ratio of accounting earnings before interest and taxes to the book value of assets. The Tobin Q is measured as ratio of the market value of common shares plus total debt divided by the book value of total assets of the company. This study used two-year average performance for both measurements because an organization may not ordinarily react to poor performance by replacing its CEO in the same year the poor performance occurs (Boeker & Goodstein, 1993).

Board Attributes

Information on the board of directors for each firm in the study is compiled by the firm and disclosed in the corporate information and directors profile section in the firm's annual report.

Size

Board size is measured as the number of board members (Zahra & Pearce, 1989).

Composition

Board composition is measured as the proportion of non-executive directors (NEDs) to total number of directors on the board of the company. (Boeker & Goodstein,1993; Borokhovich et al. 2006).

Leadership

Dual title is coded as a dummy variable. Coding is 0 if the outgoing CEO also holds the title "chairperson" and as 1 if another person is a "chairperson" (Cannella & Lubatkin, 1993).

Multiple Directorships

Multiple directorships are determined based on the number of directorships held by board members. It is measured as the proportion of directors on board of the company having at least one additional directorship in another company to total numbers of directors on board (Haniffa & Hudaib, 2006).

Ownership Structures

Various attributes of equity ownership structure may influence the incidence of top management change due to different levels of corporate governance.

Family-controlled firms

A family firm is defined as a proportion of ordinary shares owned by family directors of the company as a group to total shares outstanding. (Haniffa & Cooke, 2002).

Managerial Ownership

Managerial ownership is operationalized as the function of ordinary shares owned by executive directors of the company as a group to total shares outstanding (Pergola, 2005).

Turnover Type

By examining the announcement made by the company regarding top management turnover, the turnover type will be classified as voluntary or forced turnover Succession theory suggests that there are at least four voluntary scenarios, namely the relay succession, normal retirement, early retirement and death or poor health (Friedman &

Singh, 1989; Cannella & Lubatkin, 1993). Regarding forced turnover, Dahya et al. (2002) and Huson, Malatesta and Parrino (2004) identify forced turnover by examining the report released by the press including the Financial Times and Wall Street Journal. They labeled turnover as a forced turnover when the news articles state that the executive was "fired" or "resigned" and in both cases the CEO must be less than 60 years old. In addition, if the announcement did not report any reason for the departure as death, poor health, or the acceptance of other position elsewhere or within the firm stated, then the departure is also classified as forced turnover. Further, removal is also considered as forced turnover since top management are removed before the expiration of their three years term (Kang, 2002). For the purpose of this study, classification between forced turnover and voluntary turnover will be based on the reason stated in the change of management announcement made by a company in the KLSE website as suggested by Huson et al. (2004) and Dahya et al. (2002). A dummy variable is used to determine turnover type. "1" is for forced turnover and "0" is for voluntary turnover.

Predecessor Disposition

Incumbent disposition is a binary variable. Coding is 1 if the CEO stays in the company with a new position other than CEO, and 0 if the CEO leaves the firm (Friedman & Singh, 1989).

RESULTS

Table 1 show means, standard deviations and correlations among variables This study employed logistic regression to explain the relationship between performance (both ROA and Tobin's Q), board composition, firm ownership, turnover type and predecessor disposition. Two logistic regressions were used to cater for two different performance measurements employed in this study. However, the result based on ROA performance measurement is not discussed in this study as the coefficient of ROA variable is not significant.

TABLE 1
Descriptive Statistics and Correlations*

Variables	Means	Std Dev	1	2	3	4	5	6	7	8	9
1. Outsider	0.54	0.50									
2.Performance	1.19	0.84	0.31								
3. Board size	7.85	1.98	0.05	0.02							
4. Outsiders on board proportion	0.64	0.20	0.27	0.05	-0.02						
5. Board multiple directorships	0.49	0.29	0.20	-0.08	0.16	0.15					
6. CEO duality	0.95	0.22	0.05	-0.09	-0.09	0.10	-0.07				
7. Family Ownership	11.02	20.77	-0.44	-0.16	-0.03	-0.29	-0.11	-0.11			
8. Managerial Ownership	16.60	21.94	-0.44	-0.12	-0.06	-0.23	-0.12	-0.11	0.59		
9. Turnover type	0.50	0.50	0.42	0.13	0.04	0.21	0.13	0.03	-0.19	-0.24	
10. Predecessor Disposition	0.51	0.50	-0.64	-0.21	-0.10	-0.11	-0.05	-0.03	0.05	0.01	-0.56

* N= 142. Correlations greater than 0.19 are significant at $p < 0.05$

Hypothesis 1 predicts that performance will have a negative effect on the choice of an outside successor. However, the finding of this study does not support the hypothesis as the result in Table 2 shows that there is a positive relationship between performance and outside successor. This result implies that the better the performance of a company the more likelihood the outsider will be selected as a successor. Result shown in table to also support hypothesis 3 and hypothesis 4 for board attributes. The coefficients for outside board member proportion and board members' multiple directorships are both positive and significant. These results indicate that the higher proportion of outside directors on the board of company and the more board members with multiple directors the more likelihood the outsider will be chosen as a successor. However, hypothesis 2 and hypothesis 5 are not supported in this study. This finding indicates that the board size and the separation between CEO and chairman titles do not influence the selection of the outsider as a successor.

For ownership structures, both hypothesis 6 and hypothesis 7 show an inverse relationship between family ownership, managerial ownership and outside selection. These finding revealed that outsider are not preferable in both family-owned and managerial-owned company. The inside successor is most welcome in this two type of firms in order to maintain their status quo, control and job security. There is a negative relationship between type of turnover and the choice of outside successor which indicate that forced turnover does not lead to outside succession. However the coefficient is not significant and hypothesis 8 is not supported. Hypothesis 9 stated that if the incumbent CEO is given another post in the same company, he/she will intervenes in new CEO selection. He/she will have a higher tendency to naming an insider to be a successor for his security and other board member security. This hypothesis is supported as the coefficient of predecessor disposition showed a

negative significant sign towards outside selection which implies that insider is preferable when the incumbent CEO is still holding a post in a company.

Overall, the finding of this study support that firm performance, board attributes, firm ownership, turnover type and predecessor disposition influence the successor choice. The model has a chi-square of 142.667 (p=0.000) with 9 degree of freedom indicating that the model was able to distinguish between outside selection and inside selection. The model as a whole explained between 63.4 percent (Cox and Snell R-squared) and 84.7 percent (Nagelkerke R-squared) of the variance in outside selection. The McFadden Psuedo R-squared is 72.7 percent which indicates a higher relationship between dependent variable and independent variables. The overall percentage of correct classification is 88.7 percent shows an improvement from 53.5 percent before the inclusion of independent variable. The model was able to correctly classified 88.5 percents of companies which select outsider as a successor and 89.1% percent companies which select insider as a successor.

TABLE 2
Logistic Regression Analysis

Independent Variables	B	S.E	Wald	df	P	Odds Ratio
AVTOBIN	1.415	0.688	4.225	1	0.040**	4.114
BSIZE	- 0.041	0.203	0.041	1	0.840	0.960
BOUTSIDE	5.939	2.147	7.649	1	0.006***	379.389
BMBR	3.503	1.512	5.369	1	0.020**	33.231
BDUALITY	0.755	1.350	0.313	1	0.576	2.128
FAMILY OWN	- 0.135	0.064	4.479	1	0.034**	0.873
MANAGERIAL	- 0.119	0.046	6.710	1	0.010***	0.887
TURNTYPE	- 1.453	0.902	2.597	1	0.107	0.234
DISPOSITION	-11.377	3.172	12.862	1	0.000***	0.000
CONSTANT	3.814	3.233	1.392	1	0.238	45.352

Ch-square χ Degree of freedom	142.667*** 9						
Cox & Snell R ² Nagelkerke R² Mc Fadden Pseudo- R²	63.4% 84.7% 72.7%						
Classification Accuracy: Overall - Outsider Selection - Insider Selection	88.7% 88.5% 89.1%						
Sample Size - Outside Selection - Inside Selection	142 76 66						

DISSCUSSION AND CONCLUSIONS

The major purpose of this study is to identify factors that influence the selection of CEO successor whether insider or outsider by Malaysian PLCs. This study examined the interdependent effects of five sets of antecedents: corporate performance, board attributes, ownership, turnover type and predecessor disposition. This study began with examining the relationship between company performance and outside selection. Both performance accounting based (ROA) and market based (Tobin's Q) showed a positive sign of relationship, however only the Tobin's Q performance showed a positive significant coefficient. This result is contradicted with most previous studies as those studies found a negative relationship between performance and outside selection. However, the finding of this study is a line with Parrino (1997) and Dalton and Kesner (1985) who found that poor performance firms are more likely to choose an insider as a successor because they do not want to change their existing structure and policies due to many power vested in these firms. In addition, they added that, it is difficult for

the low performing firms to find a suitable outside candidate who capable to turnaround its performance. Furthermore, study by Chung et al. (1987) also found that high performing firms are more likely to hire CEOs from outside the organization than are low performing firms. They argue that outside selection is viewed as an adaptive behaviour which is appreciated by investors.

Due to inconclusive result regarding relationship between performance and outside selection, Cannella and Lubatkin (1993) suggest that there might be other factors that influence CEO selection choice such as board of directors, firm ownership and predecessor power. This study also examine the above mention factors and find that the higher proportion of outside members in the board of company has a positive significant influent to the CEO selection. This finding support studies by Boeker and Goodstein (1993) and Borokhovich et al. (2006) which found that firms with high proportion of insiders on their boards of directors will be less likely to choose the outside as a successor. This study also revealed that firms which board members hold more than one directorship will tend to select outside as a successor. This finding support social network theory which argues that board members who sit in more than one board are viewed as an information provider. They are able to provide useful information about the external candidates that has a potential to fill the incumbent CEO post. Other board attributes like board size and CEO duality are not significant elements in determining the outside selection as both variables are not significant.

Both hypotheses on ownership structures (i.e family and managerial) are supported as this study found a negative relationship between family-owned and managerial-owned firms with outside selection. This finding implied that both family and managerial owned firms prefer insider than outsider in order to maintain their control and job security. Previous studies discussed that forced turnover which normally due to

poor performance will lead to outside selection. However, this study does not found a significant result regarding turnover type and outside selection.

Former CEOs are often retained on the board as Chairman of the Executive Committee, especially when firms are enjoying healthy performance. The aim is to utilize the CEOs valuable knowledge on the company and business. This study also found an inverse relationship between outside selection and predecessor disposition. This result showed that the existence of a predecessor in the board might also influence the selection of the successor because it is reasonable to assume that firms that retain the former manager in their organizations signal their preferences for some continuity (Lauterbach, et al. 1999). Thus, an inside succession is preferable than outside succession when incumbent top management is still holding an official position in the company.

The major implication of this study is that poor performance does not lead to outside successor which is different from previous studies. A possible explanation for this finding is may be because high-performing firm also want to change their structure and policies and one possible way is by replacing their incumbent CEO with an outsider. The selection of outsider as a successor is viewed as an adaptive view which attracts investors' attention that may increase firm's future performance. This study also has important implications for corporate governance and ownership structure of organizations. Firms whose boards are dominated by outsider and board members hold more than one directorships in other companies are tend to select the outsider as a successor. This finding support the social network theory which claim that boards have higher proportion of outsider and board members that have multiple directors will have more information and communicate with outsider. As a result, they are able to find a suitable outside candidate to fill the vacant post. In contrast, firms that control by

family and management are more likely to choose insider as a successor for continuity of policies, structure, control and security. They believed that the insider will provide a smooth transition and stability since they are well acquainted and have participated in developing the existing corporate strategies.

Other implication of this study is the power of incumbent CEO also influences the choice of the successor. Firms that retain the former manager tend to select the insider as a successor due to their security and other board members security.

As a conclusion past performance, board attributes, firm ownership, predecessor power and turnover type composition do influence the CEO selection choice in Malaysian PLCs. Firms tend to select an outsider as a successor when firms perform well, have a higher proportion of outsider as a board members and have more board members that hold more than one directorship. In contrast, firms that owned by family, management and retain the incumbent CEO are more likely to choose insider as a successor.

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BOARD COMPOSITION, EXPERTISE AND EARNINGS QUALITY

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Abstract

This paper examines the relationship between internal governance mechanisms, namely the role of boards and earnings quality focusing on two important characteristics of board effectiveness: (1) board composition (i.e. board independence); and (2) board expertise (i.e. financial, governance and firm-specific expertise). Using data from 831 non-financial companies, listed on Bursa Malaysia's Main Board over the period 2003-2005, this study finds a positive and significant association between board governance and firm-specific expertise and earnings quality measured by the accrual quality model. Additional directorships held by board members and longer average tenure held by independent directors are found to be two important determinants of an effective board. No evidence of association was found between board financial expertise and earnings quality. Concerning board independence, this study finds a significant but contrary sign on the relationship between board independence and earnings quality and casts doubt on whether independent directors in Malaysia are truly independent when inside directors dominate the board.

Keywords: **Corporate Governance, Board Characteristics, Earnings Quality, Malaysia**

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1. INTRODUCTION

Concerns about corporate governance in East Asian countries emerged as a result of the East Asian financial crisis in 1997/1998. The crisis exposed the consequences of weak governance and poor governance standards were blamed indirectly in part for the crisis (Nam and Nam, 2004). This weakened foreign investors' confidence in the East Asian capital market, including Malaysia (Leng, 2004; Abdul Rahman and Haniffa, 2005). Further, the tragic collapses and losses of giant companies such as Enron Corporation, WorldCom and Tyco International in the United States (US), which is known to have the best regulated and most efficient capital market in the world, highlights the critical need to improve the corporate governance system in both developed and developing countries. These together with other scandals such as Parmalat in Italy, Vivendi in France and Royal Ahold in Netherlands, followed by revelations of misrepresentation of financial statements, have drawn attention to

corporate governance reform around the world. There is urgent need to improve the quality of reported earnings as the capital market needs precise and unbiased financial reporting to value securities and encourage investors' confidence (Pergola, 2005).

Consequently, many countries[48] have been proactive in improving and strengthening corporate governance systems. The main focus is to enhance the quality of the board of directors so that shareholders' interest can be better protected. Malaysia introduced the Malaysian Code on Corporate Governance 2000 (MCCG 2000) outlining the principles and best practices for corporate governance. In the MCCG 2000, the role, composition and structure of the board of directors are viewed as the most crucial elements for effective corporate governance mechanisms. The Code recommends that firms have a well balanced and effective board to take the lead role in establishing best practice in corporate governance. A well-balanced board is defined as having a balance of executive directors and non-executive directors, including independent non-executive directors, to ensure effective decision making by the board with no domination from individual or small groups of individuals (MCCG, 2000). The Code also requires that non-executive directors have the necessary skills and experience and be persons of calibre and credibility in order to bring independent judgment to the board.

This paper contributes to the literature on the association between board characteristics and financial reporting quality in several ways. First, this study provides further insight into the relation between the roles of board to earnings quality using a broad measure of board characteristics based on the work of Bedard *et al.* (2004). While most prior studies on board of director's characteristics focus mainly on the role of board independence, this study also examines their expertise to effectively monitor the financial reporting process. Second, this study applies the accrual quality model developed by Dechow and Dichev (2002) that captures one aspect of the quality of accruals and earnings. The use of the accrual quality model, as an improved measure of earnings quality, is to overcome the weaknesses of measurement errors in the earnings management model (i.e. absolute discretionary accrual) in measuring earnings quality[49]. Among seven earnings attributes to define earnings quality (i.e. accrual quality, persistence, predictability, smoothness, value relevance, timeliness and

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[48] See e.g. Cadbury Report 1992, Greenbury Report 1995, Malaysian Code on Corporate Governance 2000, Singapore Code of Corporate Governance 2001, Thailand Code for Best Practice for Directors of Listed Companies 2002, Sarbanes-Oxley Act 2002, NYSE Corporate Governance Rules 2003, Bangladesh Code of Corporate Governance 2004, Hong Kong Corporate Governance Code 2004 at http://www.micg.net/code.htm

[49] See McNichols (2000) on the research design issues in earnings management studies for detailed discussions and evidences on aggregate accruals models possible misspecification to characterize discretionary behaviour.

conservatism) evaluated by Francis *et al.* (2004) to investigate the relationship between cost of equity and attributes of earnings, the accrual quality model outperforms the other attributes that were characterized as accounting-based and market-based attributes. Third, this study focuses on a specific country study, i.e. Malaysia to provide a better understanding of the link between governance and financial reporting in emerging countries. Concentration on a country or region helps to control for different factors that affect studies across countries, thus providing a deeper understanding of the issues being examined, especially in jurisdictions outside of the US and the UK (Jaggi *et al.*, 2007).

Despite the general belief that greater independence of the board is associated with greater financial reporting quality, this study finds a contrary but significant relationship between board independence and earnings quality. Contradictory to the agency theory prediction, a higher proportion of independent directors is associated with a lower quality of reported earnings. Fuzzy findings from this study may be due to the fact that the ownership structure in Malaysia is highly concentrated in the hands of inside directors, who are normally family members. This creates a real danger that self-interested behaviour of managers goes unchallenged by independent directors and may lead to expropriation of the minority shareholders' wealth. In order to focus beyond the independent directors' monitoring role, this study also includes board expertise variables as complementary characteristics that might reasonably enhance the effectiveness of boards. Interestingly, this study finds a positive and significant association between governance and firm-specific expertise and earnings quality. Additional directorship held by board members to gain governance expertise and the longer average tenure of independent directors to acquire firm-specific expertise are found to be significantly associated with greater earnings quality. However no association is found with regards to the relationship between board financial expertise and earnings quality.

The remainder of this paper is organized as follows. Section 2 discusses the background for the study and contains a review of the relevant literature. Section 3 outlines and explains the sample selection, research method and variable measurement. Section 4 analyses and discusses the research results. Finally, the conclusions, limitations and suggestions for future research are considered in Section 5.

2. BACKGROUND OF THE STUDY AND LITERATURE REVIEW

2.1 Malaysian Code on Corporate Governance

Historically, Malaysia was a former British colony. Hence, the development of company law in Malaysia closely follows the pattern of the UK's company legislation. The Malaysian accounting and auditing standards replicate those found in the UK as well as other commonwealth countries such as Australia and New Zealand (Gul, 2006). Although there are broad similarities with regards to accounting and regulatory environments with the US and the UK, the Malaysian corporate sector operates in a different institutional environment. Like other East Asian countries, many Malaysian firms are closely owned or privately held with the principal shareholders typically playing an active role in management (Abdullah, 2006).

Davis-Friday *et al.* (2006) show that the value relevance of earnings and book value in four Asian countries, Indonesia, South Korea, Malaysia and Thailand were significantly reduced during the Asian financial crisis and is related to the countries' weak corporate governance mechanisms. In the post-Asian financial crisis and post-Enron era, corporate governance reforms have become the most important agenda issue globally. In Malaysia, the financial crisis provided an impetus for corporate governance reforms with the publication of the Report on Corporate Governance in February 1999. The aim was to improve disclosure and good corporate governance practices in Malaysia and re-establish the investor's confidence in the Malaysian capital market (Report on Corporate Governance, 1999). Due to the recognition of corporate governance in Malaysia, the Finance Committee then issued the Malaysian Code on Corporate Governance (MCCG) in March 2000. Given the historical connection between Malaysia and the UK, the Malaysian Code was basically modelled after the UK Combined Code on Corporate Governance (Ow-Yong and Guan, 2000).

Corporate governance as defined by the Finance Committee on Corporate Governance in Malaysia is *'…the process and structure used to direct and manage the business and affairs of the company towards enhancing business prosperity and corporate accountability with the ultimate objective of realizing long term shareholder value, whilst taking account the interests of other stakeholders'* (Report on Corporate Governance

1999, p.52). The definition emphasizes the contribution of corporate governance to both business prosperity and accountability to enhance shareholder value so that they will receive an appropriate return on their investment. Corporate governance will serve as a set of rules to persons who have the power to direct and manage the firm, to enable them to make accountable decision-making.

The Malaysian Code was fully implemented in January 2001 with a revamp of the listing requirements of Bursa Malaysia [50]. The Revamped Listing Requirements represent a major milestone in corporate governance, creating an environment that demands higher standards of conducts and a higher quality of disclosure from corporate governance participants in Malaysia. In order to enhance the transparency of public listed companies in Malaysia, listed firms with a financial year ending after 30 June 2001 onwards are required to include in their annual report – the statement of corporate governance, a statement of internal control, composition of the board of directors, composition of audit committee, quorum of audit committee and any additional statements by the board of directors.

The report focuses on the monitoring functions of boards to enhance the quality of internal controls and financial reporting. Among the crucial recommendations in the Code are the inclusion of one third of the board to comprise of independent non-executive directors, the separation of powers between the chairman and chief executive officer, effective board structure and procedures and a formal selection process of directors with the establishment of a nomination and remuneration committee comprised solely of non-executive directors. Additionally the revised MCCG 2007 [51] enriches the role of the nomination committee by requesting that when candidates are recommended for directorships they should have the necessary skills, knowledge, expertise, experience, professionalism, and integrity to strengthen and ensure the board discharges its roles and responsibilities effectively. The following discussion focuses on two main issues of an effective board i.e. board composition and board expertise.

2.2 Board Composition

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[50] Prior to April 2004, Bursa Malaysia was known as Kuala Lumpur Stock Exchange.
[51] The aim of the Revised MCCG 2007 is to further strengthen corporate governance practices in line with developments in the domestic and international capital markets.

The board of directors' role as a monitoring tool is viewed as the most crucial element for effective corporate governance mechanisms to enhance the quality and integrity of accounting information (see e.g. Cadbury Report, 1992; Malaysian Code on Corporate Governance, 2000; Singapore Code on Corporate Governance, 2001; Higgs Report, 2003). Fama and Jensen (1983) theorize that the board of directors is the most important internal control mechanism that is responsible to monitor the actions of top management. They represent the interests of the firm's shareholders by setting strategies, policies and goals that maximize shareholders' wealth (Fama and Jensen, 1983).

From an agency theory perspective, the board of directors is used for monitoring executive opportunistic behaviour. The theory emphasises the need for greater proportion independent directors to monitor any self-interested actions by managers (Nicholson and Kiel, 2007). Independent directors have more incentive to effectively monitor management because of a strong need to develop their reputations as expert decision makers (Fama and Jensen, 1983). With their independence and objectivity, independent directors have the ability to resist pressure from the firm to manipulate earnings and are better able to monitor the earnings process (Machuga and Teitel, 2009).

Nevertheless, empirical evidence on the association between independent directors and financial reporting quality is mixed. Some studies, especially from countries with a diffused ownership structure such as US and UK, have found that having greater proportion of independent directors on the board improves financial reporting quality (Beasley, 1996; Peasnell *et al.*, 2000; 2005; Klein, 2002; Davidson *et al.*, 2005). Other studies from countries where the ownership structure is highly concentrated, either do not have found a link between independent directors and improved firms' financial reporting quality (Abdullah and Mohd Nasir, 2004; Park and Shin, 2004; Abdul Rahman and Mohamed Ali, 2006; Hashim and Susela, 2008a; Siregar and Utama, 2008; Machuga and Teitel, 2009) or document contrary findings with agency theory predictions (Norman *et al.*, 2005; Klein *et al.*, 2005; Hashim and Susela, 2008b). This raises doubt as to whether the requirement for a majority of independent directors is appropriate in countries with a concentrated ownership structure, which have lack of qualified independent directors and are controlled by a single majority owner (Barton *et al.*, 2004).

The MCCG 2000 views that good governance rests firmly with the board of directors. The Code requires one third of the board to comprise of independent non-executive directors. The Listing Requirements stipulate that at least two directors or one third of the board, whichever is higher, must be independent. Despite the conflicting results from prior studies, it is hypothesized that:

H_1: Firms with an independent board of directors are likely to have greater earnings quality.

2.3 Board Expertise

Daily *et al.* (2003) suggest that over emphasis on directors' oversight role to the exclusion of alternative roles such as resource, service and strategy roles is one potential explanation for limited evidence from board oversight functions. To perform specified duties and responsibilities, the board members must consist of a diverse collection of skills and competencies (Reilly, 2003). Having board members who lack knowledge and experience actually threatens the firm's overall performance due to the inability to deal with issues affecting the firm's business (CFA Institute, 2005). Three aspects of board expertise, i.e. financial, governance and firm-specific expertise as discussed by Bedard *et al.* (2004) are examined in this study.

2.3.1 Financial Expertise

Peasnell *et al.* (2000) believe that the ability of non-executive directors to perform a monitoring role, in reducing earnings management activity, is only pertinent when they are capable of identifying cases of earnings management that falls within the scope of the board of directors' expertise. George (2003) argues that poor financial reporting quality may result from a board member who has no technical expertise. To be effective in addressing issues relating to the financial information of the company, the directors should have a sound financial background and must at least be able to read and understand the balance sheet (Renton, 2003).

The study by Xie *et al.* (2003) finds that boards of directors composed of corporate or investment-banking backgrounds are negatively related to the level of earnings management and suggests that independent directors with corporate and financial backgrounds are an important determinant of board monitoring effectiveness as they have a better understanding of how earnings are being

managed. Bedard *et al.*, (2004) observe that the presence of a financial expert on the audit committee is negatively related with the likelihood of aggressive earnings management. Although Park and Shin (2004) fail to find significant evidence between board independence and accrual management, they do find evidence that the presence of officers from financial intermediaries on the board are helpful in limiting abnormal accruals when the unmanaged earnings are below the target. They suggest that experienced outside board members actually helps them understand the firms and its people better and thus enhances their governance competencies.

The Blue Ribbon Panel addresses the issue of the financial sophistication of audit committee members in preventing earnings management behaviour. In Malaysia, the revised MCCG Code 2007 requires all members of audit committees to be financially literate. This is so they are able to understand and interpret financial statements to effectively fulfil their role in monitoring the company's system of internal control and financial reporting. Additionally, the Code also requires at least one audit committee member to be a member of an accounting association or body. It is hypothesized that:

H_2: Firms with financial expert board committee members are likely to have greater earnings quality.

2.3.2 Governance Expertise

'Economic theory suggests that one of the main factors motivating directors to act in shareholders' interests is their desire to establish a reputation in the labour market for directorships, thereby increasing the value of their human capital' (Peasnell *et al.* 1999, p.106). Additional directorships signal the competence of directors in the managerial labour market and provide a platform for directors to gain governance expertise (Bedard *et al.*, 2004). Governance expertise refers to the ability of the director to appreciate the differences between management and direction and to have a good understanding of the board's operations, including the legal framework within which they operate (Renton, 2003).

Additional directorships help the directors to be more transparent as well as more sensitive to protect their reputations, thus, creating an incentive for them to perform

well (Haniffa and Cooke, 2005; Vafeas, 2005). However, this is dependent upon the time and effort they spend, as a large number of outside directors may limit the time they can devote to a particular firm, which in turn may decrease their governing effectiveness (Bedard *et al.*, 2004). In US study, Bedard *et al.*, (2004) find that the average number of cross-directorships of independent audit committee members is significantly related to both income-increasing and income-decreasing earnings management. They find that the greater the additional number of other directorships held by board members, the lower the likelihood of earnings management activity of the firm. Similarly, a study by Norman *et al.* (2005) for Malaysian study reports a significant and negative association between multiple directorships and earnings management in firms with negative unmanaged earnings. They suggest that multiple directorships serve as important governance mechanisms in mitigating earnings management activity and any attempt of earnings management would jeopardize directors' future in the managerial labour market.

For Malaysian cases, the Bursa Malaysia adopts restriction in the number of directorship per director in its listing requirement in 2002. The maximum number of directorship is ten in public companies and fifteen in private listed companies to ensure the directors to perform their duties effectively with less commitment, resources and time available (Zulkafli *et al.*, 2005). It is hypothesized that:

H$_3$: Firms with governance expert board committee members are likely to have greater earnings quality.

2.3.3 Firm-specific Expertise

Other important characteristics to determine the expertise of the board come from studying the impact of board tenure on financial reporting quality. Firm specific expertise is acquired through experience as a member of the board by developing more knowledge of a company's operations and its executive directors (Bedard *et al.*, 2004). Beasley (1996) finds negative and significant association between the number of years of board service for outside directors and the likelihood of financial statement fraud. He believes that the ability of boards to monitor management effectively is consistent with the increased number of years they serve.

Nevertheless, Vafeas (2005) identifies conflicting theoretical views on the impact of independent director tenure length and board effectiveness. While longer average tenure is associated with greater experience and knowledge about the firm's operation, she argues that too long a board service in the same company will compromise their independence as they are more likely to befriend management and be less critical about the quality of financial reporting. A survey by Peasnell *et al.* (1999) finds that on average the length of tenure for non-executive directors in the UK is five years with twenty five percent of the sample having served the company more than six and a half years. Their findings cast doubts about the independence of the board who serve on boards too long. Xie *et al.* (2003) find that the longer the tenure of directors, the less effective they became as they may co-opt with management. They find a positive instead of negative relationship between board tenure and the level of discretionary accruals. Despite the conflicting results from prior studies, it is hypothesized that:

H_4: Firms with firm-specific expert board committee members are likely to have greater earnings quality.

3. METHODOLOGY

3.1 Sample Selection

The initial sample of the study consists of all companies that were listed on the Main Board of Bursa Malaysia for the period 1998 to 2006. At the end of the year 2006, there were 649 financial and non-financial companies listed on the Main Board. Due to different statutory requirements, all banks, insurance and unit trusts companies as well as utility companies were excluded from the population of interest, reducing the sample size to 592 non-financial companies.

For a sample of three years period, nine years complete accounting data, *t = 1998-2006* is required to estimate accrual quality. For that reason, the number of data observations is further reduced to 424 non-financial companies with complete data for current assets, current liabilities, cash, change in debt in current liabilities, cash flow from operations, revenues and property, plant and equipment. A firm is included in the year *t* sample if data is available for year's *t-4* to *t*. Any firms that were de-listed within

years 1998 to 2005 were also excluded from the population of interest due to incomplete data. As consistent with prior research (Davidson *et al.*, 2005; Abdul Rahman and Mohamed Ali, 2006) industries with less than 8 firms were also eliminated from the analysis. Further, 139 companies were excluded as the required financial and corporate governance data was not available, resulting in a final sample of 277 companies from 2003 to 2005, giving a total of 831 firm-year observations with complete data for earnings quality and board of directors' characteristics.

3.2 Regression Model

This study uses a linear multiple regression analysis to test the association between the dependent variable of earnings quality and the independent variable of board independence, board financial expertise, board governance expertise and board firm-specific expertise.

$$EQ = \beta_0 + \beta_1\,BIND + \beta_2\,BDFINEXP + \beta_3\,BDCROSS + \beta_4\,BDTENURE + \beta_5\,BDSIZE + \beta_6\,LNSALES + \beta_7\,LEV + \beta_8 ROA + \beta_9 BIG4 + \beta_{10} DUM\_YR04 + \beta_{11} DUM\_YR05 + \varepsilon\ldots \ (1)$$

Where:
EQ	= measured by accrual quality based on Dechow and Dichev (2002) model
BIND	= proportion of independent non-executive directors to the total number of directors on the board of the company
BDFINEXP	= proportion of directors on the board with financial expertise to the total number of directors
BDCROSS	= proportion of directors on the board, with directorships in other companies, to the total number of directors.
BDTENURE	= average number of years of board service of independent non-executive Directors
BDSIZE	= total number of directors on the board of company
LNSALES	= natural log of total sales
LEV	= ratio of total liabilities to total assets
ROA	= ratio of net income to total assets
BIG4	= dummy variable, 1 if audited by Big 4 audit firms, 0 if otherwise

As prior studies, this study includes board size, firm size, leverage, firm growth and audit quality as control variables in the regression model as these variables have been shown to have impact on earnings quality (Wang, 2006; Jaggi *et al.*, 2007).

3.3 Earnings Quality Variable

To measure earnings quality, this study applies Dechow and Dichev's (2002) accrual quality model (hereafter DD) that captures one aspect of the quality of accruals and earnings. This measure is based on the observation that accruals map into cash flow realizations and regardless of managerial intent, the accrual quality is affected by the measurement error in accruals. The nature of accruals that are frequently based on the assumptions and estimates create estimation errors that need to be corrected in the future.

In the DD approach, the estimated residuals from firm specific regressions of working capital accruals, on past, present, and future cash flow from operation, captures the total accruals estimation error by management and are viewed as an inverse measure of earnings quality. The DD model does not distinguish between intentional and unintentional estimation errors. The approach taken is to assess accruals as a whole as both estimation errors imply a lower quality of earnings.

$$\frac{\Delta TCA_{j,t}}{Assets_{j,t}} = \varphi_{0,j} + \varphi_{1,j} \frac{CFO_{j,t-1}}{Assets_{j,t}} + \varphi_{2,j} \frac{CFO_{j,t}}{Assets_{j,t}} + \varphi_{3,j} \frac{CFO_{j,t+1}}{Assets_{j,t}} + v_{j,t} \ldots\ldots\ldots\ldots\ldots(2)$$

Where:

$\Delta TCA_{j,t}$ = Firm j's total current accruals in year t, = ($\Delta CA_{j,t}$ - $\Delta CL_{j,t}$ - $\Delta Cash_{j,t}$ + $\Delta STDEBT_{j,t}$);

$\Delta CA_{j,t}$ = Firm j's change in current assets between year $t-1$ and year t;

$\Delta CL_{j,t}$ = Firm j's change in current liabilities between year $t-1$ and year t;

$\Delta Cash_{j,t}$ = Firm j's change in cash between year $t-1$ and year t;

$\Delta STDEBT_{j,t}$ = Firm j's change in debt in current liabilities between year $t-1$ and year t;

$Assets_{j,t}$ = Firm j's average total assets in year t and $t-1$; and

$CFO_{j,t}$ = Firm j's net cash flow from operation in year t.

For each firm-year, equation 2 is estimated cross-sectionally for all firms (minimum 8 firms within each industry groups) using rolling 7-year windows. These estimations yield five firm- and year-specific residuals, $v_{j,t}$, $t = t-4,\ldots t$, which form the basis for accrual metric. Accrual Quality $_{j,t} = \sigma (v_{j,t})$, is equal to the standard deviation of firm j's estimated residuals. Larger standard deviations of residuals correspond to poorer accrual quality and vice versa. Following DeFond *et al.* (2007) the standard deviation score is multiplied by -1 so that higher score indicate higher earnings quality (EQ).

4. RESULTS

4.1 DESCRPTIVE STATISTICS

TABLE 1
DESCRIPTIVE STATISTICS FOR DEPENDENT AND INDEPENDENT VARIABLES

	EQ	BIND	BDFINEXP	BDCROSS	BDTENURE	BDSIZE	LNSALES	LEV	ROA	BIG 4
Mean	-0.765	0.414	0.190	0.546	6.6	7.9	19.471	0.487	0.029	0.743
Median	-0.580	0.375	0.167	0.556	5.8	8.0	19.444	0.452	0.034	1.000
Std. Deviation	0.681	0.111	0.110	0.283	4.3	2.0	1.466	0.512	0.151	0.4375
Min	-5.280	0.170	0.000	0.000	0.2	3.0	15.156	0.000	-2.310	0.000
Max	-0.040	0.860	0.600	1.000	29.3	16.0	23.649	7.790	2.010	1.000

As reported in *Table 1*, the mean and median value of earnings quality is -0.765 and -0.580, respectively. In terms of board composition, 87 percent of companies meet the recommendation of the MCCG 2000 to have at least one third of the board comprising independent non-executive directors. The average, 41.4 percent, of the proportion of independent non-executive directors indicates the domination of insiders in the board composition of companies in Malaysia. With respect to financial expertise, each company has at least 1 to 2 members of the board with financial expertise as represented by a median value of 0.167. In terms of board cross-directorship, more than half the board members (54.6 percent) hold additional directorship in other firms. The average length of tenure for independent directors serving in companies in Malaysia is seven years with a maximum value of 29 years.

4.2 CORRELATION ANALYSIS

A Pearson product moment correlation (*r*) was computed to examine the correlation between the independent variables. As illustrated in *Table 2*, board independence, board cross-directorship, board tenure and firm size are significantly related to earnings quality ($\rho < 0.01$). Other independent and controls variables are not correlated with earnings quality. The coefficient of correlation between board independence and earnings quality is however negative, which requires further explanation. With respect

to correlation among variables, the correlation matrix confirms that no multicollinearity exists between the variables since none of the variables correlates above 0.80 or 0.90. All variables have a correlation of less than 0.40.

TABLE 2

CORRELATIONS AMONG VARIABLES

	EQ	BIND	BDFINEXP	BDCROSS	BDTENURE	BDSIZE	LNSALES	LEV	ROA	BIG4
EQ	1									
BIND	-.103**	1								
BDFINEXP	-.019	.104**	1							
BDCROSS	.130**	.134**	.167**	1						
BDTENURE	.180**	.023	-.166**	.139**	1					
BDSIZE	.067	-.267**	-.141**	.081*	.061	1				
LNSALES	.159**	-.020	.069*	.321**	.241**	.288**	1			
LEV	-.023	-.041	.035	.051	-.030	.022	.134**	1		
ROA	-.004	.040	.051	.022	.097**	.086*	.169**	-.133**	1	
BIG4	.013	.011	.065	.167**	.081*	.045	.130**	.011	.033	1

**Significant at the 0.01 level; *Significant at the 0.05 level

4.3 MULTIVARIATE ANALYSES

Table 3 presents the results from the multiple regression analyses. All the models tested in this study are highly significant at 0.01 percent level.

TABLE 3
REGRESSION RESULTS

	Panel A t-Statistic	Panel B t-Statistic	Panel C t-Statistic
(Constant)	**-4.699****	**-4.768****	**-4.629****
BIND	**-2.299***	**2.665****	**-2.309***
BIND^2		**-2.852****	
BDFINEXP	-0.054	0.020	

BDFINEXP_DUM			0.048
BDCROSS	**2.540***	**2.416***	**2.502***
BDTENURE	**4.602****	**4.543****	**4.568****
BDSIZE	-0.189	0.030	-0.187
LNSALES	**2.515***	**2.517***	**2.501***
LEV	-1.277	-1.090	-1.280
ROA	-0.617	-0.803	-0.621
BIG4	-0.781	-0.831	-0.789
DUM_YR04	-0.021	-0.083	-0.022
DUM_YR05	-0.769	-0.921	-0.768871
Adjusted R^2	0.056	0.083	0.058
F-Value	**5.605****	**7.259****	**5.605****
N	831	831	831

** Significant at 0.01; *Significant at 0.05

From the analysis conducted, it was found that three out of the four characteristics of board of directors tested in the basic model of this study are significantly associated with earnings quality (*Panel A – Table 3*). The results presented show significant association between board independence (BIND), board governance expertise (BDCROSS) and board firm-specific expertise (BDTENURE) and earnings quality. No association was found between board financial expertise (BDFINEXP) and earnings quality.

Contradictory to the prediction of agency theory, this study finds a significant negative association between board independence (BIND) and earnings quality at 0.05 percent level. It suggests that firms with lower board independence have higher earnings quality. The finding is, however, similar to the earlier paper by Norman *et al.* (2005) and Hashim and Susela (2008b), which report a significant but contrary sign of a relationship between board independence and earnings management for Malaysian companies. Klein *et al.* (2005) raise the issue of the applicability of the agency theory assumptions on the monitoring role by outside directors in countries with a concentrated ownership structure, especially in the hands of family members. As the ownership and control is tighter in family firms, they argue that the demand for outside directors becomes less. Furthermore, Bhagat and Black (2002, p.239) argue that *'if the shift in board composition responds to external pressure, then it may be neither efficient nor an endogenous response to firm characteristics'*. Siregar and Utama

(2008) find that the existence of independent boards do not significantly associated with efficient earnings management in Indonesia as the establishment of the committee is only to comply with the regulations and not for monitoring purposes. As found in this study, most firms in the sample surpassed one-third threshold (as also noted by Abdullah, 2004). Hence, this leads to speculation as to whether the one-third requirement actually works and suggested by Abdullah (2004) although they appear independent they may not be truly independent.

It is found that board governance expertise (BDCROSS) proxy by proportion of directors on the board with directorships in other companies and board firm-specific expertise (BDTENURE) proxy by average number of years of board service of independent non-executive directors are highly significant at 0.05 and 0.01 percent, respectively. Both results show a positive and highly significant relationship between governance expertise and firm-specific expertise with earnings quality. The greater the number of board committee holding additional directorships in other firms enhances the quality of financial reporting of the firm as they gain governance expertise through knowledge they acquire in other firms (Bedard *et al.*, 2004).

Additionally, the results provide strong support of the relationship between firm-specific expertise (BDTENURE) and financial reporting quality, as can be seen in Table 3, which reveals a highly significant relationship between board tenure and earnings quality. Experience as a board member in the same company for a longer period of time helps independent directors gain firm-specific expertise of the company's operation and its other executive directors (Bedard *et al.*, 2004). The increase in the number of years independent directors serve in the firm gives them the ability to effectively monitor the management, which results in a higher quality of financial reporting.

Although governance expertise and firm-specific expertise of boards is found to be highly significant, this study does not find any association between board financial expertise (BDFINEXP) and earnings quality. The finding is, however, consistent with Abdul Rahman and Mohamed Ali (2006) for Malaysian cases. They argue that the establishment of audit committees has yet to achieve its intended goal in Malaysia.

4.4 ADDITIONAL ANALYSES

To ascertain the credibility of initial analysis, two additional tests were carried out; (1) allowing for a possible non-linear relationship between board independence and earnings quality; and (2) using a different proxy to measure board financial expertise.

4.4.1 Alternative Measurement for Board Independence

Thus far, the variable BIND is treated as a linear variable. The result, as shown in *Panel A,* suggests that board independence is significantly associated with earnings quality but in the opposite direction as predicted by the agency theory. It is possible that the relationship between board independence and earnings quality is non-linear. Studies by Bhagat and Black (2002) and Garg (2007) suggest that different proportions of independent directors may differently impact firm performance. For example, Bhagat and Black (2002) suggest that firms may achieve the benefit of firm-specific knowledge when they have a significant number of inside directors – for example 30 percent – but the benefits may be detrimental when there are too many.

Klein (2002) reports that firms with a majority-independent board (i.e. 51 percent or more) produce the highest relationship with abnormal accruals. Although it may be valuable to have a majority of independent directors, Garg (2007) documents that the impact of board independence on firm performance is less when the proportion of board independence is greater than 60 percent. To further investigate this issue, the study adds a squared term for board independence (BIND^2) to the basic model in *Panel A* to test whether the relation between board independence and earnings quality is non-linear. Results reported in *Panel B* indicate that both the estimated coefficient of board independence (BIND) and the square of board independence (BIND^2) are statistically significant at the 5 percent level. Other individual results are not significantly different from the earlier model and all the variables that are significant in *Panel A* remain significant.

Given the estimated values for the BIND and BIND^2 coefficients, the turning point of the relation between board independence and earnings quality is:

Maximisation point = $-b_2/2b_3$ = -5.283 / (2*-6.137) = 43.04% ≈ 43%

The results suggest that as board independence increases the sample firms report higher earnings quality, consistent with the agency theory prediction. However, when board independence reaches beyond 43 percent, a negative association between board independence and earnings quality emerges. In other words, the results suggest that firms with board independence greater than 43 percent will begin to report lower earnings quality.

4.4.2 Alternative Measurement for Board Financial Expertise

The Bursa Malaysia listing requirements require that at least one member of the audit committee is a member of the Malaysian Institute of Accountants. Additionally, the listing requirements stipulate that if they are not a member of the Malaysian Institute of Accountants, they must have at least three years working experience and must have passed the examinations specified in Part 1 of the 1st Schedule of the Accountants Act 1967 or must be a member of one of the associations of accountants as specified in Part 11 of the 1st Schedule of the Accountants Act 1967.

To carry out additional analysis, this study uses a dummy variable to represent firms with a qualified accountant. Consistent with the prior study by Abdul Rahman and Mohamed Ali (2006), the variable board financial expertise is measured using an indicator variable with the value of one if at least one member is a qualified accountant and 0 otherwise. As for the results regarding the board financial expertise as shown in *Panel C*, treating the board financial expertise variable as a dummy variable does not influence earnings quality significantly. Specifically, the results show no significant coefficient with regards to the association between board financial expertise (BDFINEXP_DUM) and earnings quality. This suggests that at least one member of the board being a member of an accounting association or body is not an effective measure to achieve board financial expertise.

5. CONCLUSION, LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

This paper examines the effect of board independence and board expertise on the financial reporting quality in Malaysia. Using an accrual quality as a measure of earnings quality, this study finds that board expertise is one of the most important determinants of financial reporting quality. Specifically, this study finds a positive significant relationship between additional board directorship and average tenure of

independent directors that capture governance and firm-specific expertise and financial reporting quality. Larger additional directorships of board members and longer average tenure of independent directors enhance the boards monitoring role to produce higher quality financial reporting.

While board governance and firm-specific expertise is found significantly related to earnings quality, this study does not find any support for board financial expertise. Since the revised Code 2007 gives greater concern for audit committees to be all financially literate, future study could examine the effect of having more board members with financial literacy, using a more current sample, to see the effectiveness of this recommendation towards enhancing financial reporting quality. A more refined measure for financial expertise is needed to provide evidence of the relationship between financial expertise and earnings quality. Furthermore, this study only focuses on the board members who are qualified accountants. Each director comes from a different professional category that could add value to the firm (Choi *et al.*, 2007). Perhaps, investigation on the different professional background of directors will provide an interesting avenue for future research.

Corresponding with observations by Barton *et al.* (2004), and a recent empirical study by Garg (2007), this study documents that having a majority of independent directors does not have any impact on earnings quality. In fact, the evidence suggests that the impact of board independence on earnings quality is non-linear. The results of the additional analyses raise concern regarding the appropriateness of policy directives that call for a majority independent directors in countries with a concentrated ownership structure, especially when it is in the hands of family members (Cheung and Chan, 2004; Barton *et al.*, 2004; Klein *et al.*, 2005; Ibrahim and Abdul Samad, 2007). As suggested by Machuga and Teitel (2009), policy makers should consider both firm characteristics and the institutional environments before they implement additional corporate governance reforms especially in countries that are characterized by controlling family ownership and weak legal protection of property rights. Thus, further investigation is needed to assess the effectiveness of the independent directors' monitoring role due to unsatisfactory results from this study.

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Session 2.1: Accounting Education

**DATA EXAMINING POSTINGS TO THE DISCUSSION BOARD IN
INTRODUCTORY ACCOUNTING**

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Abstract

This paper examines discussion board postings by students enrolled in an Introductory
Accounting subject at Monash University. Analysis shows that the total number of
posts increased over a five year period from 2004 – 2008, and that most were made by
Australian on-campus students. The total proportion of students who posted at least one
message on the discussion board was between 14.3 and 20.8 per cent. As there has been
a dearth of research linking accounting education and discussion boards, these results
have a number of implications for university administrators, teaching staff and students.

Key Words*: Accounting Education, Discussion Board, Virtual Learning
Environment's (VLE's).*

Introduction

Universities throughout the world have made large monetary and time investments in
the development and use of Course management tools such as Blackboard and WebCT
(Seale and Mence, 2001). These tools[52] provide an interface that allows for the creation
of Virtual Learning Environment's (VLE's). Today the use of VLE's is commonplace
in many higher education institutions (Love and Fry, 2006), and on the whole students
have positively supported the introduction of VLE's and web based study materials
(Morris and Rippin, 2003).

VLE's act as any other learning environment in that they distribute information and
facilitate learning, communication and collaboration (McKimm, Jollie and Cantillon,
2003). A VLE typically provides functions such as discussion boards, chat rooms,
online assessment, and a range of study materials. VLE's can also be used by staff for
course administration and to track students' use (Mitchell, Dipetta, and Kerr, 2001).

The discussion board is a significant component of VLE's. Discussion boards allow
users to post messages to a shared area or reply to existing messages. Typically,
discussion boards are made up of "folders" or forums containing messages on a
particular subject. Under these folders are "threads", and each thread is a series of
messages about the same topic. Within the thread are "messages" which are individual
contributions to a conversation.

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[52] According to Altay (2001) WebCT is a 'brand name' and as such is one of 50 or more
competing products that serve as a tool that facilitates the creation of VLE educational
environments.

The primary purpose of this paper is to examine the postings on the discussion board in an introductory accounting subject over a five year period. This is completed through a statistical analysis of all discussion board posts on a semester-by-semester basis. There is a dearth of research on the use of course websites with accounting students (James and Subramaniam 2005; Love and Fry, 2006; Wells, de Lange, and Fieger, 2008; Halabi, de Lange, Hardy and Dyt, 2008), and none that statistically examines discussion board postings. This study will therefore contribute and expand the knowledge related to discussion boards and accounting education, and hopefully prompt further research.

The remainder of this paper proceeds as follows: Firstly the paper examines the features of discussion boards and their contribution to the learning environment. This is followed by a review of the limited research linking accounting education and VLE's and discussion boards. The paper then goes on to describe the particular course and setting, and then presents the aims. The results are then analysed and discussed. Finally the paper concludes with the implications and limitations and outlines some opportunities for further research.

Features of Discussion Boards

In the late 1980's the importance of interactivity in computer mediated communication was noted. Harasim (1989) for example stated that interaction has the greatest potential to impact on learning. In much of the research that follows, the interaction theme is recognized as the most important feature of discussion boards. Garrison, Anderson and Archer (2001) stated that on line learning was important as it created a virtual community of inquiry that allows learners to construct experiences and knowledge through analysis of subject matter, questioning and challenging assumptions. Dennen (2005) also noted that discussion boards allow many opportunities for general interaction and feedback (see also Arbaugh and Durray, 2002). Discussion boards facilitate learner interaction by allowing students to ask questions of the tutor about the any aspect of the course, and enable students to answer one another's questions and develop discussions and debates (Mitchell, Dipetta, and Kerr, 2001).

Marra, Moore and Klimczak, (2004) also stated that instructors and students rely on asynchronous forums to engage one another in ways that potentially promote critical thinking, meaningful problem solving, and knowledge construction. Further advantages of discussion boards are that they do not require the geographical meeting of students, and are not confined to a particular period of time (Marra, Moore and Klimczak, 2004). Discussion boards allow students and tutors to discuss a given topic over an extended period of time.

While there are a number of advantages of discussion boards, Linder and Murphey (2001) noted that concerns involved students not being active participants in discussion forums and interactive sessions. Further, Mitchell, Dipetta, and Kerr, (2001) stated that from an instructor's perspective, managing discussion boards can be difficult and time-consuming.

Accounting Education Research and Discussion Boards

There is little systematic data on accounting students use and perceptions of VLE's. Bryant, Kahle, and Schafer (2005) do discuss the advantages and disadvantages of Blackboard and WebCT functions in the context of distance education only. Love and Fry (2006) noted that research on VLE's is in its infancy and so conducted a phenomenographic study among first year accounting students. Love and Fry (2006) found that students perceived tutors to be using the VLE simply as an 'online textbook', and that the face to face teaching added little value to the VLE. Wells, de Lange, and Fieger (2008) however found that second year students have openly embraced VLE's and support their adoption (see also Halabi, de Lange, Hardy and Dyt, 2008).

In terms of discussion board use, there is very limited accounting education based research (James and Subramaniam, 2005; Halabi, de Lange, Hardy and Dyt, 2008; Wells, de Lange, and Fieger, 2008). Halabi, de Lange, Hardy and Dyt (2008) conducted a survey of introductory accounting students and found those who had used the discussion board felt that "communication and interaction" was the most useful aspect. The majority of students (294 out of a total of 361, or 82 per cent) however had used the VLE to only access information and not for discussion or interaction. Wells, de Lange and Fieger (2008) stated that students appear unwilling to actively participate in two-way online activities.

VLE's at Monash University

VLE's have been widely used in many business related subjects at Monash University since the late 1990's. VLE's grew out of the Gippsland Campus's reliance on off-campus or distance learning (Monash University 2002). Today most subjects at the university offer some VLE to students on any campus and distance education[53].

The Universities' objective of using VLE's is consistent with published research - being to offer flexibility in course presentation and a mode of delivery where teachers and students manage their learning environment (McKimm, Jollie and Cantillon, 2003; Monash University, 2002). VLE's are also consistent with the strategic direction of the university. The "Monash Directions 2025" document states that *"we will demonstrate a deep commitment to internationalism and cross-cultural communication, through our campuses in Australia, Malaysia and South Africa"* (Monash University, 2005).

Introductory Accounting at Monash University

The first introductory accounting subject at Monash University is a core unit in the Bachelor of Business and Commerce. The subject is offered by Monash's three Australian campuses (Gippsland, Berwick, and Peninsula), two international campuses (Malaysia and South Africa), and through distance education.

In the three Australian and two international campuses, the subject is taught face-to-face. These students receive a weekly two hour lecture and one hour tutorial. Distance

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[53] Monash University has six Australian campuses and one in Malaysia and South Africa.

education students are supplied with specifically produced printed materials with instructor contact available through telephone, email and fax. All students receive the same curriculum, undertake the same assessment tasks (including examinations) and are assessed by the same criteria (Monash University, 2002).

One Chief Examiner heads the subject, and individual lecturers are responsible for the administration and teaching on that campus. All teaching staff have input into the assessments, marking guides and final examination, and also moderate assignments and examinations from all locations. This helps to ensure compliance to the marking scheme and consistency in the final marks.

The first VLE for the subject was created in 1998 through the Webface platform. This was a straightforward environment that provided basic course information and study materials to distance education students only. The printed materials that were sent to distance education students for example were also placed on Webface as were memos regarding course announcements (these were also distributed by mail). There was no opportunity for interaction with other students or the teaching staff, as the discussion board was not operational. The VLE duplicated much of the printed materials already sent to students.

The migration from Webface to WebCT in 2001 brought greater opportunities for interactivity and creativity. Discussion boards were introduced, as were some on-line chat facilities. The VLE was extended to other on campus students at the Gippsland campus in, 2001 and to other Australian campuses in 2002. In 2004 the VLE was extended to Monash's International campuses.

Today all students (irrespective of mode or campus location) have the same subject VLE designed through Blackboard. All study material is provided including distance education printed materials; weekly lecture notes; lecture exercises and solutions; tutorial questions and solutions, and past examinations and solutions. A calendar of events is also included. The VLE provides links to sites such as those assisting with the presentation and preparation of assignments, professional accounting associations, university regulations, and staff email directories. In terms of interaction, there is a discussion board and an on-line chat facility that all students can access. These interactive features mean that students can communicate with each other irrespective of their geographical location.

The VLE for the subject is maintained by the Chief Examiner with some assistance from the universities' technical support. The Chief Examiner uploads relevant notices, the weekly lecture material, solutions to tutorials questions, and manages the discussion board. Teaching staff on individual campuses are given "teacher/tutor" access to enable them to engage in discussion and post notices relevant to their individual campuses.

Aims of the Present Study

Initial evaluation of discussion boards focused on descriptive statistics regarding the number of postings, and participation rates of students (see de Laat, 2001). Later research analysed the content of online discussion. Marra, Moore and Klimczak (2004)

for example stated that online postings can be analysed in a number of ways including social, interactive, metacognitve (reasoning), and cognitive groups (elementary clarification, in depth clarification, inference, judgment and strategies).   Burnett (2000) stated that the interactive dimension of discussion board posts could be analysed into hostile or collaborative. Finally Marra, Moore and Klimczak, (2004) reported that discussion posts could be analysed in forty different ways including relevance, justification, novelty, ambiguity each with a plus or minus code to indicate whether the comment was negative or positive.

Prior research that has examined online discussions by content analysis has mainly focused on classes with small numbers, and over a limited time period.   Marra, Moore and Klimczak (2004) for instance analysed the discussion board for 21 students enrolled in a graduate course involving 53 postings.

Because of the large numbers of students involved in the Introductory Accounting subject, and the potential for a large number of discussion board posts to be made, a content analysis is beyond the scope of the present study. As there has very little prior research examining discussion boards in accounting education, this study will provide statistical data on the numbers of posts made per semester over a five year period, and examine the participation rates of students by campus.   The main question to examine is while VLE's have become more common, has this led to an increase in the number of discussion board posts and participation amongst students over a five year period? Analysis will be conducted on total student postings according to folders, by campus, and the number of students who posted messages.

Data
Data for this study was obtained from analysing the Introductory Accounting subject discussion board postings at the end of each semester beginning from semester 1, 2004 to semester 2, 2008[54]. The subject is offered in both semesters with enrolments usually larger in the first semester. The results are analysed by separate semesters.

Results and Discussion
Five categories (or folders) are used to analyse the postings. The folder titled "General Discussion" concerned items of a very general nature that related to the subject, and included course and administrative arrangements. Folders "Ass 1" and "Ass 2" concerned postings specifically related to the first and second assignments[55]. The folder "Exam" related to information on the final examination including types of questions and topics, structure of the paper.   Finally the discussion board included twelve folders for the weekly topics of the course. These were collapsed into one folder titled "weekly topics".

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[54] The subjects had not changed in content over the time period. The chief examiner remained the same, as did the textbook (a later edition of the text book was used which involved minor changes such as name changes to the accounting reports). Finally, all assignments and examinations were different but based on similar concepts.
[55] There were two assignments set in the subject. The first was worth 12% of the total mark, while the second was worth 18%.

Table 1 highlights the total posts made by students according to "folders" from semester 1 2004 to semester 2, 2008. The total number of students enrolled is also provided, and the total number of posts per student is calculated.

	Number of Posts									
	Semester 1					Semester 2				
Folders	**2004**	**2005**	**2006**	**2007**	**2008**	**2004**	**2005**	**2006**	**2007**	**2008**
General Discussion	12	18	21	18	15	8	7	9	12	7
Ass 1	59	121	219	221	221	45	71	58	204	138
Ass 2	165	292	232	339	282	112	137	232	182	169
Exam	21	37	40	34	25	11	22	34	62	23
Weekly topics	38	22	14	59	71	24	17	13	18	22
Total Posts	295	490	526	671	614	200	254	346	478	359
Total Students	898	994	1025	1052	1211	449	458	515	615	572
Total Posts Per Student	0.33	0.49	0.51	0.64	0.51	0.45	0.55	0.67	0.78	0.63

Table 1: Discussion board posts made by all students according to folders

Table 1 shows that the total number of discussion board posts over both semesters increased from 2004 – 2007 and then fell away slightly in 2008. The most posts were made to the "Ass 2" folder except in semester 2, 2007. The second assignment was an accounting manual practice set involving the accounting and bookkeeping process, and the large number of posts could be due to any of the following reasons: The assignment was lengthy; the assignment was worth 18% of the final assessment; students normally required assistance throughout the various stages but particularly in the beginning; students wanted to check their progress and balances at different stages; there was over six weeks to complete the project. While the examination was worth significantly more than the second assignment (70% of final assessment) it did not make up a large part of the discussion. This was primarily because a detailed memo was supplied to all students outlining the format of the paper and the types of questions to expect. The discussion board was also closed on the day of the examination.

Table 1 also analysed the number of posts by the total number of students enrolled. The results show that the number of posts as a proportion of the total student population has also increased over both semesters from 2004 to 2007, and then decreased in 2008. Interestingly, the total number of posts per student was always higher in the second semester, even though the number of students enrolled was smaller. The second semester cohort usually included a number of students who were failures from prior semesters, and the repeating students may have made more postings than usual to clarify certain points. Students in the second semester may also have felt that the smaller number of students allowed greater opportunities for interaction.

The next analysis examined the number of discussion board posts by the campus in which students were enrolled. The three Australian campuses were collapsed into one group ("Internal Australia"). The other campus/student groups were from Malaysia, South Africa, and Distance education. Results on the total number of posts per campus/student group and posts per student are presented in Table 2.

Campus/Student Group	Total Number of Posts By Campus									
	Semester 1					Semester 2				
	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
Internal Australia	255	425	461	550	490	172	228	304	422	308
Distance Education	36	53	49	86	65	25	21	32	43	29
Malaysia	4	12	13	24	43	3	5	6	13	22
South Africa	0	0	3	11	16	0	0	4		
Total	295	490	526	671	614	200	254	346	478	359
	Students By Campuses /Student Groups									
Internal Australia	395	437	419	383	383	218	201	229	276	232
Distance Education	76	74	62	77	67	45	32	43	48	38
Malaysia	296	337	368	408	487	154	178	197	291	302
South Africa	131	146	176	184	274	32	47	46		
Total	898	994	1025	1052	1211	449	458	515	615	572
	Posts Per Student Per Campus/Student Groups									
Internal Australia	0.65	0.97	1.1	1.44	1.28	0.79	1.13	1.33	1.53	1.33
Distance Education	0.47	0.72	0.79	1.12	0.97	0.56	0.66	0.74	0.9	0.76
Malaysia	0.01	0.04	0.03	0.06	0.09	0.02	0.03	0.03	0.04	0.07
South Africa	0	0	0.02	0.06	0.06	0	0	0.09	0	0
Total	0.33	0.49	0.51	0.64	0.51	0.45	0.55	0.67	0.78	0.63

Table 2: Discussion board posts analysed by Campus

Table 2 shows that the most number of posts in all semesters was made by "Internal Australia" students followed by those enrolled through distance education. The students from South Africa used the discussion board the least, and in some cases not at all. Analysis revealed that the internet was very slow in South Africa, and the campus used an alternative means of supplying study materials, which did not involve a discussion board facility. The Malaysian cohort also rarely used the discussion board.

Table 2 shows that the total number of posts by the "Internal Australia" students and "Distance Education" increased from 2004 – 2007, but fell away in 2008. Discussion board postings have however increased over the analysis period for the Malaysian and South African groups. This perhaps highlights that the VLE is becoming more accepted by students on all campuses, and maybe some evidence that the university is achieving its goal of "internationalism and cross-cultural communication" (Monash University, 2007).

As a proportion of students enrolled, Table 2 also shows that the most posts were made by "Internal Australia" students again followed by those enrolled in "Distance Education". In similar results to Table 1, the proportion of postings per student was always higher in the second semester compared to the first for both "Internal Australia"

students and "Distance Education".   This was however not the case for Malaysian and South African students.

Finally, analysis was conducted on the number of students actually posting to the discussion board. Table 3 shows the number of posts made by different students, and the percentage of students making posts. For interest, the table also highlights the highest number of posts by a single student during that semester.

| | Total Number of Posts by Different Students | | | | | | | | | |
| | Semester 1 | | | | | Semester 2 | | | | |
	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
Number of students posting	134	145	147	167	197	84	94	107	115	117
Total Students	898	994	1025	1052	1211	449	458	515	615	572
Percentage posting to the DB	0.149	0.146	0.143	0.159	0.163	0.187	0.205	0.208	0.187	0.205
Most Posts by a Student	15	32	36	45	22	27	42	30	44	22

Table 3: Total Number of Posts by Different Students

Table 3 shows that the total number of students making at least one post on the discussion board has increased from 2004 – 2008 in both semesters. Overall the percentage of students who have made at least one post has been between 14.3 per cent (semester 1, 2006) and 20.8 per cent (semester 2, 2006). The percentage of students making at least one post on the discussion board was generally more in the second semester than the first. Table 3 also shows the most number of posts made by a particular student, which has varied between 15 (semester 1, 2004), and 44 (semester 2, 2007).

Conclusion

This study has provided statistical data on postings to the discussion board over a five year period for an Introductory Accounting subject. Results showed that the total number of posts on the discussion board increased from 2004 to 2007 however fell in 2008 (Table 1). The most activity on the discussion board was from Internal Australian students, followed by Distance Education. Although there was very little activity from the international campuses of Monash, there is evidence that this is increasing (Table 2). Finally the results show that the percentage of students making posts to the discussion board was between 14.3 per cent and 20.8 per cent over the five year period (Table 3).

The results have a number of implications for administrators of universities, staff and students. For administrators, the results highlight that while great investments have been made in VLE's, and students are generally positive about the change (Seale and Mence, 2001; Love and Fry, 2006; Morris and Rippin, 2003), the discussion board only

attracts between 14 and 20 per cent of students to post questions or reply to answers. As one of the major advantages of VLE's is to increase access, it would seem that the discussion board may not be achieving this, if indeed access is measured by number of students posting.

The results also have implications for staff. While the total number of posts to the discussion board has increased, the majority of students do not participate. Prior research has shown those who use the discussion board said that interactivity was the greatest benefit (see Halabi de Lange, Hardy and Dyt, 2008). Therefore staff should try to involve as many students as possible in discussions and remind them of the benefits of participation (as they would a face-to-face class). The discussion board in the present study was set up to be essentially "student based", and staff only answered questions when specifically requested, or when students were incorrect. This was the decision of the staff involved being - to maintain the discussion board as a student centred forum with little input from staff. Teaching staff may be able to make more students active participants in the discussion forums by prompting questions, or raising issues. Students could also be given a mark for their participation in the discussion board (see Marra, Moore and Klimczak, 2004), though not all students are comfortable with using discussion boards, and staff must be aware of this before any assessment grade can be determined (Linder and Murphey, 2001).

A further implication for teaching staff may be specifically directed for those who work on universities with a number of campuses - whether these are within their country or internationally. A feature of the discussion board is that it does not require the geographical meeting of students (Marra, Moore and Klimczak, 2004), Staff should be encouraged to make all students from locations involved in the discussion board. Accounting as an "international" subject is well placed to allow students from all over the world to discuss similar issues. Perhaps an assignment may be set where students examine accounting reports of different countries, with teacher promoted discussions comparing accounting similarities and differences across national boundaries. Further, students from various locations could be grouped together to work on assignments and discussion boards used as a means of communication.

Finally the results have implications for students. All students need to be made aware of the advantages of discussion boards - that is that they can facilitate learner interaction promote critical thinking, problem solving and knowledge construction (Marra, Moore and Klimczak, 2004; Garrison, Anderson and Archer, 2001). This may promote more students to post to the board. Involving students in discussion forums can be likened to discussing issues in class, and students need to be able to see the similarities and advantages.

There a number of limitations for this study, however these provide many opportunities for further research. The study was only restricted to five years data and conducted at one university. The results therefore can not be generalized beyond that university or the sample size. The results from other universities would add to the dearth of research in this area.

The present study ignored "discussion board usage" - or the actual number of students who had read postings. Anecdotal evidence would suggest that many students use the discussion board and read the posts. Facilities in Blackboard and WebCT enable the collection of information on student usage of the entire VLE (Mitchell, Dipetta, and Kerr, 2001), however what would be more applicable in this instance would be a specific measure of the time spent reading or using the discussion board. This is an issue for administrators to deal with, and perhaps a direction of further advancement of the Blackboard functions which can lead to further research.

This research used statistical data to measure postings to the discussion board. There was no analysis of the content. Valid tools exist for assessing discussion forum content (see Marra, Moore and Klimczak, 2004) and accounting educational research could move into this area. Because of the large number of posts in the Introductory accounting subject and the considerable time taken to analyse the posts, research in this area may be beyond the beginning subject. Rather it may be best to examine the content of discussion board post to smaller student enrolled subjects, or over certain time periods (Marra, Moore and Klimczak, 2004).

The research did not examine the performance of students who have used the discussion board against those that did not, and this could be another direction of further research. Marra, Moore and Klimczak, (2004) stated that discussion boards may promote critical thinking, and knowledge construction (see also Garrison, Anderson and Archer, 2001). This could be tested by analysing the end of semester marks. More information would need to be collected to properly do a study in this area (for example prior accounting knowledge, gender, location, motivation), and these variables would need to be controlled.

Even though some limitations exist, this study has provided important knowledge on the use of discussion boards by introductory accounting students, particularly as this is an under-researched area. There still remains many issues that warrants further research. The results of this study are important as they have implications for university administrators, academic staff and students.

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INVESTIGATION OF IMPORTANCE ETHICS EDUCATION IN ACCOUNTING CURRICULUM

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Abstract

Accounting students become practitioners facing ethical decision making challenges that can be subject to various interpretations; hence, the profession in concerned with the appropriateness of their decisions. On the other hand an argument for the existence of accounting education in the university and the importance of a ethical foundation for business ethics is presented to justify its place in the university. The accounting profession has responded to this concern by establishing cods of professional conduct and using influence to promote ethics education. It is argued that accounting education is consistent with the nature and purpose of higher education. To perform his or her social function the accountant needs both technical expertise and moral expertise. A central organizing principle is needed to ensure that the accountant develops both types of expertise. This organizing principle is integrity. The integration of ethics into the accounting curriculum entails developing technical expertise in an educational environment which encourages reflective thinking about the role of the profession, the exercise of moral reasoning and integrity to exercise one's personal moral responsibility. This paper concludes with a model for ethics integration and points that accounting students should be required to have a class in ethics as part of their collage curriculum.

Introduction

As the conscience of business, professional accountants often find themselves facing competing obligations. It is arguable that they have obligations to shareholders, creditors, employees, suppliers, the government, the accounting profession and the

public at large. In other words, their obligations go beyond their immediate client. The work of the accountant can affect the lives of many people. This is why ethics is so important to the education of professional accountants.

The main objective of this paper is to develop a model for integration ethics into the accounting curriculum. Several related sub questions will be addressed in the process why is ethics in accounting an important problem?

What is the nature and purpose of higher education and place of the study of business with in?

How can the principles of higher education be applied to accounting?

What is the organizing principle for integrating ethics into the accounting curriculum?

Each of questions mentioned above are explained in continue. In general this paper takes a holistic approach to the problem of integrating ethics into accounting education. The moral point of view for those who teach accounting is that we aim at developing a curriculum which will help graduates to become morally autonomous technically competent, caring member of society. The pillar upon which this goal resets is that of integrity: integrity in terms of curriculum content, the setting in which learning takes place, and the development of the moral virtue of integrity itself.

The importance of ethics in the accounting profession

Although ethics has been an issue in the accounting profession for years, it has currently become a widely discussed and debated topic. The seriousness of the general problem of the role of ethics in accounting and business education will become apparent in examining some of the key ethical problems faced by accounting professionals. A review will be presented of what is currently being done by universities and by the accounting profession to help raise ethical standards.

Ethics in the accounting profession:

Ethics and professionalism are intertwined. Professionalism implies trust and trust is an ethical concept. Integrity is expected of all professionals, including doctors, lawyers and accountants. However, the integrity and ethical behavior of accountants is particularly scrutinized because of their responsibility and accountability to the public." Of all the groups of professions which are closely allied with business, there is none in which the practitioners is under a greater ethical obligation to persons who are not his immediate clients"(may,1995).

However, because of reports of unethical behavior in the business community, the accounting profession has come under increasing criticism, and public confidence in the profession has been shaken. Without this confidence the economic system could be in trouble.

Ethics in accounting education:

Due to highly publicized revelations of unethical practices in the business community, universities and educators are being pressured to teach business ethics. In general, there is widespread belief that students are not receiving adequate exposure to ethical concerns before entering the work force. Several questions have been raised with respect to how business ethics material should be though, and there is concern over whether it is even possible that ethics can be taught. In outlining the future scope and content of accounting education, the issue of ethics is recognized as being important to the ever changing profession. professional accounting education must not only emphasize the needed skills and knowledge, it must also instill the ethical standards and the commitment of a professional the business and accounting curricula should emphasize ethical values by integrating their development with the acquisition of knowledge and skills to help prevent, detect and deter fraudulent financial reporting. Business schools should encourage business and accounting faculty to develop their own personal competence as well as classroom materials for conveying information,

skills and ethical values that can help prevent, detect and deter fraudulent financial reporting.

Extent of ethics in accounting education:

Although the accounting profession has been only partially successful in making ethics an explicit of the curriculum, ethics has become a major concern and all major accounting associations have cods of ethics and standards and discipline committees to help enforce them. For example IAFC code of ethics consist of principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior, AICPA code of ethics consist of principles of responsibilities, the public interest, integrity, objectivity and independence.

The evidence shows, however, that accounting ethics is still not seen as a separate area of study. Although ethics is addressed through a variety of sources and there is some coverage of ethics in auditing and other accounting courses, this is of a limited nature because of the recent recommendations stressing a need to increase coverage of ethics in the accounting curriculum more effort is required to ensure that it gets done effectively.

Ethical frameworks:

There are well established frameworks of ethical behavior that are used to direct human action and to assist in resolving ethical dilemmas. Frameworks provide theories to enhance moral reasoning and strengthen our ability to make decisions on what can and cannot be justified in terms of both business practice and educational activity. The frameworks are well known in the literature. However, a brief review will summarize the main ones which appear in the accounting ethics literature 1) utilitarianism 2) deontologism and 3) justice.

Utilitarianism:

Utilitarianism is a teleological ethical system. That is, one which bases obligation and rights on values which hold that an action is right if it brings about good consequences. Teleological theories maintain that the morality of an action depends on the non moral consequences which result from the action. Two teleological theories which dominate the literature are egoism and utilitarianism. Egoism is concerned with what are the best of self, while utilitarianism is concerned with the best consequences for all or for the greatest number.

There are two branches of utilitarianism, act and rule utilitarianism. With act utilitarianism an act is right if it maximizes utility by producing the greatest balance of good over evil for everyone. According to act utilitarianism, moral rules such as " do not steal " or " do not lie " serve only as rules of thumb which may be altered in the light of particular circumstances so that there can be the greatest good for the greatest number.

As a practical matter, utilitarianism seems quite attractive the idea of providing the greatest good to the greatest number can be intuitively appealing. For example, when judging the effectiveness of an education program, utilitarianism provides a convenient rationale. Whit respect to curriculum content, utilitarians would judge educational activities according to how much pleasure or happiness is associated with the educational activity.

Deontologism:

Theories of rights are known as deontologism, from the Greek word deon, meaning duty. Deontologists hold that right action ought not to depend on its consequences. Deontology is the study of moral commitment. According to this framework, an act or rule brings into existence inherent value sprouting moral principle and a person has a moral duty to perform the right action regardless of the consequences. The deontological dimension of education is respect to autonomy. This suggests that the

curriculum be designed to help individuals develop critical thinking skills. This dimension can serve as an adequate basis for the ethical curriculum. The emphasis on autonomy and critical thinking however, must conform to the concept of integrity. Without integrity critical thinking can manifest itself in skilful but selfish manipulation designed to serve self interest or the vested interest of some groups at the expense of others.

Justice:

Guided by concepts such as equity, fairness and impartiality theories of justice go back as far as Aristotle and Plato. In business, issues of justice arise whenever there are conflicts of interest among stakeholders such as consumers, managers, shareholders and others. A major contribution to the issue of justice has come form the work of john Rawls(1971). According to Rawls, the concept of distributive justice (that equals should be treated equally and unequal unequally) must be maintained to prevent social unrest. Ethical frameworks can be a useful vehicle for sensitizing accounting students to ethical issues and giving them the tools to analyze what may be their intuitive positions, or at least reasoned out positions, on any given ethical problem. Ethical frameworks are helpful in determining the basic ethical principles at work in business and in applying ethical principles to ethical problems.

Goals of teaching business ethics:

At least five goals of moral education have been identified in the literature. Callagan (1980) has suggested the following: 1) stimulating the moral imagination 2) recognizing ethical issues 3) developing analytical skills 4) eliciting a sense of moral obligation and personal responsibility and 5) tolerating and resisting disagreement and ambiguity. Each of these goals will now be briefly examined for their relevance as goals for integrating ethics into accounting education.

426

Callagan suggests that ethics education should be more than an intellectual exercise: that it should stimulate the feelings and imagination of students. Students need to be taught that we live our lives in a web of human relationship such that moral actions can cause pain or joy to others. Callagan does not mention accounting education or business practice, but this web of moral relationships is a very appropriate description. Actions by managers can powerfully influence the lives of those under their control. Callagan's second goal, developing the ability to recognize moral issues is closely related to the first goal. It means, however, going beyond feelings and emotional responses to rationally sort out emotionally charged reactions.

The development of analytical skills is necessary in order to make a proper moral evaluation. Callagan recognizes the complex problem in dealing with concepts such as "justice", "right" or "good", but stresses the importance of coherence and consistency as minimal goals to development of analytical skills.

The goal of eliciting a sense of moral obligation and responsibility is one over which a teacher may have the leat influence. The idea that people must be free to make moral choices and be responsible to others for their choices is fundamental to the nation of ethics. If students of accounting lack this feeling of moral responsibility ethics education may not have much influence.

Callagan argues that students need to learn to tolerate the disagreements and to be prepared to accept the inevitable ambiguities in attempting to examine ethical problems.

callagan's goals seem to provide a framework for bringing business ethics into the accounting curriculum. For accounting education a sixth goal, however, should be added to reflect the additional responsibility of professionals. This goals is to instill a hightened sense of moral and social responsibility that encompasses critical inquiry. Because of the special power and privilege which society bestows upon professionals, society has a right to expect that professionals acquire a hightened sense of moral and

427

social responsibility that would ensure that integrity is exercised in carring out professional functions. This would entail a strong and consistent commitment to do what is right and not to abuse their positions of trust or be unduly influenced by powerful individuals or interest groups.

Ethics in the curriculum

Business schools in U.S use several approaches to teaching ethics in the curriculum. Some schools have a required ethics course, either in the liberal arts core or in the business core. These stand alone ethics courses may be taught by professors trained in philosophy, religions studies, or various business disciplines. One possible problem with a stand alone ethics course is that students may not apply what they learn in the ethics course to business issues. For example, several accounting courses require students to incorporate ethical issues into the business decision model this gives business students an opportunity to apply ethical principles in the accounting and other business classes they take. While student's ethical values may be substantially formed by the time they get to college, they nonetheless can learn to include their values in business decisions. Accordingly, accounting and business classes require students to look beyond the bottom line, and include ethical issues in their business decision models. In summary, the model for integrating ethics into the accounting curriculum is as follows:

1) Devote half a semester of the introduction to business course to general business ethics.

2) Integrate ethics into each and every accounting course throughout the curriculum.

3) Develop a capstone course at the senior level which deals with complex issues of business social responsibility and professional responsibility.

This approach to ethics integration provides the student with both brand and specific exposure to business and accounting ethics. Society will benefit from educated individuals with high ethical reasoning ability who are sensitized to ethical issues and

who have developed the habit of careful reflection. This combination of ethical reasoning, sensitization, and reflective thought are nation the seeds for building integrity, the central organization principle of ethical behavior.

Suggested topics of ethics courses

1) Integrity

2) Honesty

3) Ethical reasoning

4) Making correct choices under pressure

5) Independence

6) Objectivity

7) Impartiality

8) Confidentiality

9) Professional institutes codes of conduct

10) Moral exemplars

11) State codes of conduct

12) Financial markets rules

13) Autonomy

14) Discretion

15) Ethical theory

16) Self determination

17) Moral development justice

18) Caring and compassion

19) Human rights

20) Business low

21) Self sacrifice

22) Kindness

23) Diversity

24) Environmentalism

25) Philanthropy

Conclusion:

Ethics is a critical issue in accounting practice, and consequently, to accounting education. A heightened public concern regarding business ethics as well as a declining influence of social institutions has increased the role educators must play in forming student's ethical attitudes and beliefs. Students themselves have indicated that they are looking for and need ethical and moral direction. On the other hand, fraud will not be eliminated, regardless of how well business schools do in teaching ethics. But ethics can be an important part of the business curriculum, and students can learn that ethics matters in business decisions. A theme throughout this paper has been that a fundamental role of the university is to produce educated people and the moral integrity is central to being an educated person. Accounting education provides socially useful knowledge. When the accounting curriculum is taught in an environment that encourages reflective thinking about the social responsibility of accounting professionals, and promotes integrity as the central organizing principle for ethical behavior in business, accounting education legitimately belongs in the university.

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THE USE OF REFLECTIVE LEARNING JOURNALS AS A LEARNING AND ASSESSMENT METHOD WITHIN AN ENTRY LEVEL TERTIARY ACCOUNTING PAPER

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(First Draft – please do not quote)

Abstract

This paper outlines and evaluates the use of reflective learning journals as both a learning and assessment technique in an entry-level accounting paper.

In 2003 a Tertiary Institution in the North Island of New Zealand (TI) undertook an internal Teaching, Learning and Assessment (TLA) Pilot Programme. This internal initiative was aimed at introducing innovative teaching and assessment practices which assisted a transition from content-focussed, lecturer-centred passive learning to more student-centred reflective learning.

There was also a need to promote the development of communication and academic competencies. Interpersonal and communicating skills are widely recognised by the accounting profession as critical to successful practice and are recognised by the International Federation of Accountants as a key component of its Professional Skills standards for accountants.

One of the outcomes of the TLA pilot programme was the implementation, within the entry-level accounting paper, of a compulsory Professional Skills component utilising specialist language tutors and requiring the students to complete individual Reflective Learning Journals based on their accounting course work. The TLA programme was implemented in Semester One, 2004.

Reflective Learning Journals are not usually considered by tertiary educators as a tool in the teaching of accounting. However, depending on the method of implementation, they can provide many benefits, both anticipated and unanticipated.

This paper outlines and discusses the implementation procedure of the Reflective Learning Journal assessment and summarises the final feedback from students and staff. It concludes that Reflective Learning Journals have a role to play in an entry level accounting course, and gives suggestions on how to successfully implement this method of assessment.

KEY WORDS: Reflective learning journal, reflective learning, communication skills.

Introduction

Over the last few years there has been a call for improvement in Accounting Education. Accounting educators were accused of teaching programmes based on the rote learning of rules and procedures. They taught process, not a body of knowledge. In 1988 the managing partners of the then big 8 accounting firms concluded that upcoming accounting graduates "lacked the skills and abilities to succeed in the competitive environment of the 1990's and 21st century" (American Accounting

Association, 2003). They issued 'The Big 8 White Paper' which stated "the focus should be on developing analytical and conceptual thinking vs memorising".

Subsequently, in 1989, the American Accounting Association appointed the Accounting Education Change Commission, whose brief was to be a catalyst for change in accounting education programmes.

Albrecht and Sack (2000) write that 'current accounting education is thought to be broken, outdated and in the need of change' because it does not equip graduates with the skills required by business employers. The focus of most accounting courses leaves little time for developing the skills that most employers seek (Diller-Haas, 2004).

In the modern, globalised economy the skills that business employers require from business graduates are 'soft, or 'transferable' skills. The recently released National Commission on Writing's report (2003) states that business graduates need to be equipped to meet the writing demands of the workplace. Interpersonal and communicating skills are widely recognised by the accounting profession as critical to successful practice and are recognised by the International Federation of Accountants as a key component of its Professional Skills standards for accountants.

In 2003, the Business Faculty at a Tertiary Institution (TIBF) in the North Island of New Zealand undertook an internal Teaching, Learning and Assessment (TLA) Pilot Programme. This initiative was aimed at introducing innovative teaching and assessment practices which:

 a) better met and developed the student capabilities inherent in the relevant graduate profile;

433

b)   increased the level of independent learning while decreasing passive learning;

c)   increased, or maintained, security of assessment.

This initiative was aimed at introducing innovative teaching and assessment practices which assisted a transition from content-focussed, lecturer-centred passive learning to more student-centred reflective learning, thereby promoting the development of communication and academic competencies. Within the TIBF, the objectives of the TLA pilot also served to better meet the International Federation of Accountants Professional Skills standards for accountants.

NZ100 Accounting Principles (NZ100), a compulsory national New Zealand Diploma in Business (NZDipBus) course, was one of the papers chosen to participate in this programme. As part of the subsequent changes and developments to the assessment for this paper a decision was made to introduce a Reflective Learning Journal as an assessable activity.

What is Reflective Learning?

The academic study of accounting requires the need for many modes of cognition. Reflection is particularly useful as it can help students turn classroom experience into actual learning and understanding.

"Learning = Programmed Knowledge + Questioning Insight

(Revans (1983)

The term 'Reflection' can mean a number of things. Schon (1983, 1987) believes that reflection is something that occurs in action or during action rather than after the action is completed.

Brown & McCartney put forward a comparison of Reflection ON Action and Reflection IN Action, as in Table One below:

Table One: Types of Reflection (source: Brown & McCartney, 2002, p.127)

Reflection On Action. Time Line: Past	Reflection In Action. Time Line: Present
This refers to the process of making sense of an action after it has occurred and possibly learning something form the experience which extends one's knowledge base. It may affect the action being reflected upon because that has already passed.	This process: ▪ is, at least in some measure, conscious, although it need not occur in the medium of words ▪ has a critical function, questioning the assumptional structure of knowing in action (the type of know how we reveal when we act) ▪ gives rise to on-the-spot experiment

Because the TIBF were wanting students to provide evidence from, comment and reflect on their course work and because NZ100 is an entry-level paper, an assessment activity was designed with a focus on Reflection On Action (Brown & McCartney, 2002). In order to meet the objectives of both the TLA programme and the paper, the assessment activity was to be a Reflective Learning Journal.

A Reflective Learning Journal is more than just a log, recording activities or events. It is also not a personal diary. A Reflective Learning Journal is a systematic way of documenting and collecting information for reflection and self-analysis (Kerka, 1996). The learning journal can be a powerful tool for developing student confidence and cognitive ability (O'Rourke, 1998).

What results do others claim?

There has been a great deal of research on Reflective Learning, and Reflective Learning Journals, in disciplines other than accounting. Extensive literature and research exists on the use of Reflective Learning Journals in, for example, Marketing, Law, Economics, Geography, Nursing, Teacher training.

In studying the journals of student teachers, Surbeck, Han and Moyer (1991) found that 'using the journals takes time, but assists students in becoming better thinkers'. In a pilot of learning journals with undergraduate English students it was found they were 'forced to think harder and in more original ways about the content of the module (O'Rourke, 1998). Holt (1994) found that when used with adult learners, Reflective Learning Journals stimulated cognitive activities such as observation, speculation, doubt, questioning, self-awareness, problem stating and problem solving. Baltensperger (1987) claims that students who completed Reflective Leaning Journals in his Economic Geography course benefited tremendously: they were better able to focus on the concepts presented, they were considerably more advanced in their comprehension and recall, and they expressed enthusiasm about their learning experience.

Through the completion of a Reflective Learning Journal students learn to connect the abstract and the concrete, and develop thinking skills and strategies they need for higher-level papers (Schatzberg-Smith 1989). The keeping of Reflective Learning Journals has been found to 'reveal thought process and mental habits, aids memory, and provides a context for growth (Schneider 1994).

The current research and literature on Reflective Learning Journals show that keeping a journal is not simply a vehicle for students to demonstrate what they know; it is a vehicle to help students understand what they know.

The TIBF felt it was possible to apply the benefits of Reflective Learning Journals to Accounting, in particular to the NZ100 entry level accounting course

Implementation

"Reflecting is a skill which has to be learnt and practised" (Robles, 1998)

The TIBF were aware of the need not just to get students to write, but to get them to reflect. Therefore there was a necessity to provide a strong framework and guidelines if the students were to develop reflective practices (Woodward and Sinclair, 1998).

They were also aware that "Assessments of student writing must go beyond multiple choice, machine-scorable items. Assessment should provide students with adequate time to write and should require students to actually create a piece of prose" (National Commission on Writing, 2003).

In addition to the weekly lectures and subject tutorials, students were allocated an additional compulsory one hour Professional Skills Development (PSD) tutorial. These were run by qualified language tutors on secondment to the TI's Business Faculty. Each PSD tutorial had a maximum of 20 students, thereby allowing the PSD tutor time to work with each student as required. The language tutors worked to a brief provided by the NZ100 Course Co-ordinator.

The Reflective Learning Journal was an assessable assignment, with the completion of the Journal to occur at the PSD tutorial. Attendance at the PSD tutorials was therefore compulsory for all students and formed part of the requirements for assessment completion. A pre-determined weekly journal topic was completed during the tutorials, under the guidance and with the assistance of the PSD tutor. The Journal was required to be hand-written.

At the start of the semester students were provided with a full assignment brief (refer Appendix) explaining the aims and process of the Reflective Learning Journal assessment activity. The assignment brief also included some guidelines as to undertaking and completing the Reflective Learning Journal. The topics for each week of the semester were also provided. This is in keeping with Hunter & O'Rourke (1996) who found that 'simply telling students to keep a learning journal does not work. They need to know why they are being asked to do it, and how to do it or else … the journals become either a mere record of events, or an opportunity for emotional splurges'

Topics required students to give their own views on something, not learn and repeat text. For example, if the weekly topic was "in your own words, comment on what you see as the purpose of the statement of financial position" a student was fully entitled to write that they thought it was a waste of time, provided they justified their comments. Students were encouraged to write what they thought, not what they thought their lecturers wanted to hear.

All topics were based on assessable topics from the NZDipBus NZ100 Accounting Principles national prescription. This required students to provide evidence from their course work, which ensured their reflection was focussed on their actual experience of the course. This is in keeping with O'Rourke (1998).

438

Assessment

One of the biggest perceived difficulties with written work, reflective written work in particular, is how to assess. Assessment issues include how to determine what criteria to assess against, and how to determine the authenticity of the work being assessed.

The Reflective Learning Journals were handed in to the PSD tutors at the PSD tutorials. Tutors then passed the Journals on to the lecturers for marking, lecturers marked the journals and handed them back to students at the next lecture.

Students were marked on specific achievement-based criteria, which formed part of the initial assignment brief that was handed to students at the start of the semester. The full criteria are in the Appendix; a summary is as follows:

- Attendance at PSD tutorial

- Meeting every hand-in (5 throughout the 13 week semester. This ensured completion was regular, and not the night before the last day of the semester)

- Evidence of maintenance of a weekly learning journal that covers the required topic of the week

- Presentation and readability

- Provision of a well-structured and well-laid out document

- Logical, fluent, succinct and mainly correct grammar and spelling

Achievement-based criteria were chosen because it gave students the incentive for improvement. As final marks were awarded on the highest level of achievement attained, students were encouraged to improve their content and presentation.

The issue of the authenticity of the work being assessed was dealt with by having students manually complete their Reflective Learning Journals in the PSD tutorials. Any student who completed their work on the computer, or who completed their work at home and only attended PSD tutorials to hand their journal in, did not receive any marks. This was made clear to students within the written assessment criteria.

Evaluation of Results

Qualitative results are available from feedback from the students themselves, from the writings in the Reflective Learning Journals, and from the comments from the markers of the final examination. Quantitative results are available from the tracking the marks from the final examination over the last two semesters prior to journal implementation, and the semester of implementation.

With regards qualitative results, the following Reflective Learning Journal excerpts illustrate positive student feedback:

"It helped me make sense of the whole course, and how it all fitted in. I wish we'd had the journal last time I did the course."

"I have learnt a lot from doing the journal and see now how I can apply to what I have learnt to my work"

"Teachers at school always said I could not do anything. Well, I can do this journal! And it's worth something!"

"The Journal has shown me that consistency, input and commitment are important. The amount of knowledge I gain from doing the journal is the same as what I put into it"

"Hey! I read a newspaper article that talked about business expenses, and I was able to understand it!"

"I have learnt that thinking about things and writing about them can help you understand them."

The following excerpts illustrate areas of concern revealed by students:

"Sometimes I get confused about the position and performance and what items are expenses and what are purchases of assets"

"Unfortunately this journal is of no use to me as I am too intelligent for this sort of thing"

"I'm not looking forward to my presentation, as I don't think I'll know what to do"

Over Semesters One and Two, 2003 and Semester One, 2004, the final NZ100 examination was marked by the same team of external markers. After the marking process was completed at the end of Semester One, 2004 (the first semester of the implementation of the Reflective Learning Journal) every single marker commented that the standard of the written answers seemed to be higher than in the previous two semesters, and that the written answers were more coherent and easier to follow. These comments lead to the quantitative analysis. With regards quantitative results, please refer to the future research section at the end of this paper.

Discussion and Reflection

Reading the comments (especially at the final hand-in), comparing initial entries and final entries, seeing how students had developed confidence and understanding, and how their communication skills had improved over the course, was, in the main, both illuminating and rewarding.

An unexpected benefit was the access to regular and on-going comment from the students about how they were finding the course. The lecturers were able to see for

441

themselves where students were having difficulty, or where students had achieved insight!

Also unexpected from the TIBF's point-of-view was the realisation that lecturers needed to be prepared to read information and comments that students write about both the lecturers, the course and the paper. The following excerpts illustrate this:

"My teacher is fantastic! Having a great lecturer is playing a big part in me achieving what I set out to achieve at the beginning of the course"

"What I think about this financial statement is not what my lecturer thinks. Actually, sometimes it's hard to know what my lecturer thinks, because they tell all these really stupid stories that don't relate to the course"

"I have enjoyed checking out what my lecturer wears each week"

"I REALLY WISH my lecturer would stop picking on me! If I don't know something, I don't know it!"

Hunter & O'Rourke (1996) sees this as an opportunity to use Reflective Learning Journals as a tool for staff development.

Difficulties encountered with the Reflective Learning Journal assessment were the time required for the implementation, and the establishment and timetabling of the PSD Tutorial groups. The assessment was also time hungry for marking, as turn-around needed to be within 24 – 48 hours.

Reflective Learning Journals as an assessment activity were initially implemented in Semester One, 2004. Because of the responses from both students and staff, and the rewarding results, they were again implemented as an assessment activity in Semester

Two, 2004 and at this time the intention was they would continue to be part of the NZ100 course.

Future Research

As mentioned earlier, (Evaluation of Results) at the end of Semesters One and Two, 2003 and Semester One, 2004, the final NZ100 examination was marked by the same team of external markers. The marks awarded to each student for each question were recorded. There is a future research opportunity to work on quantitative analysis of the marks awarded to the written questions in the final exams of the two semesters prior to the implementation of the Reflective Learning Journal, compared to the marks awarded to the written questions in the final exam of the semester of implementation.

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Appendix

Reflective Learning Journal Assignment Brief

NZ100 ACCOUNTING PRINCIPLES

Assessment One
Semester One 2004

REFLECTIVE LEARNING JOURNAL
Worth 7.5 % of Course Mark

ASSIGNMENT COVER SHEET

THIS MUST BE ATTACHED TO THE FRONT OF YOUR REFLECTIVE LEARNING JOURNAL

Family Name

First Name   **Student ID Number**

Programme Name   *NZ Diploma in Business*

Course Name   *NZ100 Accounting Principles*

Lecturer Name

Assessment Number   *ONE*

Due Dates	Week 4	Week 9	Week 13
	Week 6		Week 11

LATE HAND-INS WILL NOT BE ACCEPTED

REFLECTIVE LEARNING JOURNAL

General Description

Throughout the duration of the semester, students are required to maintain a **Reflective Learning Journal.** The purpose of the Journal is to capture your thought processes and ideas.

Each week, students are given a particular topic or question. Students write their **Reflective Learning Journal** their experiences and thoughts on the given topic for the week. The topics are listed on page 5.

Professional Skills Development tutorials will guide you on how to write up your Reflective Learning Journal.

Process

Accounting papers and courses offered by this department are designed to promote the progressive development of communicating and academic competencies. Interpersonal and Communicating Skills are widely recognised by the Accounting profession as critical to successful practice and are recognised by the International Federation of Accountants as a key component of its Professional Skills standards for accountants. We support this by providing a compulsory Professional Skills Development component to core courses. The Reflective Learning Journal is an important tool in which to develop your interpersonal and communicating skills.

All students of NZ100 are allocated a Professional Skills Development tutorial. You are expected to attend this tutorial. Your lecturer will advise you of how to timetable your Professional Skills Development tutorial.

In the Professional Skills Development tutorial you will be assisted to complete your Reflective Learning Journal.

What type of journal do I write in?

You are to keep a hand-written journal. You use a 1B5 exercise book, or similar hard cover book. Make sure your name, id number and the name of your lecturer are clearly written on the front of the book. Use the *Assignment Cover Sheet* for this purpose.

What do I write in my Reflective Learning Journal?

IF YOU CHOOSE, AND IF APPROPRIATE, you may base your journal around three phases of reflection:

1. **What?**
   - What has happened?
   - What activities were involved?
2. **So What?**
   - What do you think about this?
   - What does this mean in relation to your future study? For you personally?
3. **Now What?**
   - What does this mean for next week and the future, for both you and your future study?

If you choose to follow the above 3 phases of reflection, your writings will then probably involve some or all of the following:

- Description of tasks and/or events
- Documenting situations / incidents that connect theory to practice
- Explanation of observations / learning experiences
- Explanation of connections between theoretical principles and personal experience and practice
- Two or three conclusions drawn from personal and practical experience
- Demonstration of critical reflection

How much do I write?

We suggest no more than 300 words for each weekly topic. Quality is more important than quantity.

Where do I hand the Journal in for marking?

All students of NZ100 Accounting Principles are allocated a Professional Skills Development (PSD) tutorial. Journals must be handed in at that tutorial (meaning you MUST attend your Professional Skills Development Tutorials).

All journals will be returned to students either at the next lecture after hand-in, or the first lecture the week following hand-in (which-ever is sooner).

What if I am unable to attend my PSD tutorial?

If you are unable to attend your PSD tutorial, for any reason, you must contact your NZ100 lecturer as soon as possible. This is particularly important if you are unable to attend a PSD tutorial on a hand-in day.

How will it be marked?

If you miss a hand-in, you will automatically lose marks. You will be marked on:

1. Meeting every hand-in;
2. Evidence of maintenance of a weekly learning journal that covers the required topic of the week;

3.   Presentation and Readability:
- Provision of a well-structured and well-laid out document
- Logical, fluent, succinct and mainly correct grammar and spelling.

Weekly Topics

Week 1   Why are you studying accounting?

Week 2   Where did you sit in class in your first week of lectures? How did this affect your understanding of the topic?

Week 3   In your own words, comment on what you see as the purpose of the Statement of Financial Position.

Week 4   In your own words, comment on what you see as the purpose of the Statement of Financial Performance. Also find a newspaper article or clipping that focuses on one of the elements of this statement, and stick this in your journal. You do not need to comment on the clipping.

Week 5   In your own words, comment on the purpose of Balance Day Adjustments. Include in your comments whether or not you think they are necessary and justify your answer.

Week 6   Do you think that a firm that has no Bad Debts, has an appropriate (good or bad) credit policy? Justify your answer.

Week 7   Find a newspaper article or clipping that involves accounting. Stick this in your Reflective Learning Journal, and comment on how it relates to the role of business in society.

Week 8   How do you think what you have learnt in the course so far, could help you earn money in the future?

Week 9   Find a newspaper article or clipping that involves accounting. Stick this in your Reflective Learning Journal, and comment on how it relates to the purpose of accounting.

Week 10   Take a visit to your local supermarket, and see how many internal control procedures you can identify. State, and comment on these internal controls.

Week 11   Why do you think businesses need to have budgets? Do you
           have a budget? Why or why not?

Week 12   Comment on what you think is the most important thing you have
           learnt in the NZ100 course this semester.

Marking Criteria:

Handing In:

For meeting every hand-in   **6 marks**

<u>Variations:</u>
For each hand-in <u>missed</u>   subtract 2 marks per missed hand-in

Maintaining a Journal that meets the required topic:

All topics covered to an acceptable standard   **4 marks**

<u>Variations</u>
All topics covered to a variable standard (AV)   3 marks only
Most topics covered to an acceptable standard (MA) 3 marks only
Most topics covered to a variable standard (MV)   2 marks only
Few topics covered to an acceptable standard (FA) 2 marks only

Provision of a structured and well laid out document   *2 marks*

   <u>Variations</u>

Some structure and reasonably well laid out   1 mark only

Logical, fluent succinct & mainly correct grammar and spelling

                                                                  3 marks
                         <u>Variations</u>
Mostly logical, fluent succinct etc etc   2 marks only
Some logical, fluent and sometimes correct etc etc 1 mark only

TOTAL MARKS   **15 MARKS**

_____

NOTE:

If EVERY hand-in missed, but journal still completed and handed in:

                                             TOTAL OF 2 marks only

2.2 Management Accounting

PRODUCTION COSTS AND COST MANAGEMENT PRACTICES OF TURKISH MANUFACTURING COMPANIES (ICI 500): A DESCRIPTIVE STUDY

Murat Kocsoy, *Bozok University*
Yusuf Ag, *Bozok University*

--Abstract--

In this paper, we aimed to determine the production costs of Turkish manufacturing companies and their managing these costs in order to contribute literature in which no comprehensive study is done on this subject. In accordance with the aim, we conducted a descriptive survey to 287 private manufacturing companies among 500 large-scale companies listed in Istanbul Chamber of Industry and 90 surveys completed by the companies are evaluated.

As a result, the estimation and determination of production costs in the pre-production phase is regarded as a beneficial process. A considerable number of companies continue this process at the beginning and end of production shows their acceptance to traditional cost approach rather than strategic cost management approach of product life cycle. Besides, we found that the relative companies have a low level of association with suppliers which have a significant impact on decreasing and managing costs.

Keywords: Cost Management, Management Accounting, Strategic Cost management, Cost Decreasing, Cost Accounting, Production Cost

1. INTRODUCTION

Since the industrial revolution, technological developments along with changes in economic and social scopes have started to change step by step and especially gained fast from the beginning of 1980s. Those developments eventually cause radical changes in the structure of market. That's why; production cost management that

covers product innovations and designs has become a critical issue in today's business world.

After all developments and changes, in order to survive and make profit in global competitive environment, companies have started to question their traditional production and cost systems with the aim of adaptation to global competition and supplying quick-changing demands and expectations of consumers. Management accountants have realized that traditional costing techniques (like standard costing and cost-volume-profit analysis etc.) become any longer out of date in competitive environment because of changing cost system and increasing in competitive environment of companies. Traditional cost management and cost plus pricing strategies have also lost their influence in this new competitive environment. Because most of the costs are determined in projection and development phase, traditional cost management approaches which consider only the costs in production phase and disregard the other costs in production life cycle have lost their importance. As the companies have increasingly more control over costs in today's competitive market, companies realized that they have much lesser control than they expected as a result of prices mostly determined by increasing competitive market (Gharajedaghi,1999:65). Nowadays, cost is no longer a determinant of market price , just the opposite, market price has become the determinant of cost (Corrigan,1996:24).

In today's intense competitive environment, the production price is unable to be controlled by companies, therefore, the question here for the companies must be; "What should the product cost be according to market price?" rather than " What should the production price be according to production cost?". For this reason, production cost management in the development and projection phase become very critical issue for companies.

452

2. CHANGING COMPANY ENVIRONMENT AND COST MANAGEMENT

What makes cost management very important? The answer is the fact that today's industrial companies face a global competitive environment that is ever-changing and acting by its own rules.

By the technological developments, continuous changes in preference and pleasure of consumers restrict the life cycle of products and services in market-based economies. Marketing approach based on consumers (market) also make fast the restriction/shortening in that life cycle (Tek,2000:24). Besides, the differentiations in the demands of consumers prevent mass production and make it difficult that the industrial companies to benefit from scale economies. make difficult the industrial companies (Can,2004:32). Nowadays, product differentiations and also wide product range for quick supply to consumer demands take the place of mass production for similar type products (Karcıoğlu,1997:4). That eventually causes an increase for fixed cost in its part of unit output (Can,2004:32). At the same time, variety of demands and needs of consumers forces companies to be innovative and improve existing products (Ergun,2002:34).

Under these circumstances, companies can no longer hold a sustainable competitive chance by neither lowering cost nor differentiation strategy in product (Langfield-Smith and Luckett,1999:2). By the leadership in technology as a traditional competitive strategy, quality no longer provides a sustainable competitiveness (Wood,1998:63). Because quality differences between companies is getting decreased. While the quality should be high, costs should be decreased (Ansari et al,1997:4-5). This implies that companies are very effective in managing cost very effectively as well as in managing quality (by total quality management) and functionality (by innovative product projection and development) both (Langfield-Smith and Luckett,1999:2).

Cost management is certainly not a system that determines only product cost. Cost management can be conceptually categorized as; cost decreasing (cost planning) and cost control (Sakurai and Scarbrough,1997:39). Traditional cost systems are based on controlling costs and quality and balancing them temporary, and also focus on internal efficiency. On the contrary, cost management is a process of quality planning and cost decreasing that manages the costs before its occurrence (Ansari et al,1997:6). A well-planned cost management system will provide improvements in quality, cost/price and functionality of a product.

3. PROJECTION-BASED COST MANAGEMENT

Due to rapidly-changing operational environment and intense competition, profit margins of the companies which cannot reduce costs as quickly as their competitors do, will decrease and their survival will be more difficult (Blocher et al,1999:7; Cooper,1995,7).

Hence, cost management has become increasingly crucial for the survival of companies. Cost management requires participation of external and internal contributors from different functions in order to analyze product design, raw material needs and production processes and therefore seek cost-saving opportunities to manufacture products at or below their target cost (Swenson et al,2003,13; Hilton,2005,649). Companies must develop long-term and cooperative relationships by incorporating suppliers being in the first place, distributors, service-providers, company departments, customers and other members of the value chain into cost management process. By this means, cost reduction efforts may spread through the whole value chain (Ansari et al,1997:15-16).

Cost management is considered as a key point that enables to decrease projection costs of product and its processes (Kurunsaari et al,2003:318). Because the production and process technologies are getting more integrated, a product cost becomes more

dependent to its projection (Cooper and Chew,1996:89). At the same time, as product development cycle runs toward the target costing, the projection of product and necessary activities for its production becomes the most significant factor (Langfield-Smith and Luckett,1999:10). Hence, cost management systems aim to make appropriate the projection of product and processes to cost management. While traditional cost-decreasing methods concentrate on scale economies, decreasing waste and improving efficiency in order to manage costs, projection-based cost management places more emphasis on projection phase so as to eliminate probable expensive and time-consuming changes and eventually decreases product cost and its marketing duration (Ansari et al,1997:13).

Nowadays, the life cycle cost of a product, almost more than 80% is fixed and undertaken in the projection and development phases (Freeman,1998:13; Corrigan,1996:53). For instance, 70% production cost of General Motors for truck gears and similarly 80% production cost of Rolls-Royce Company for 2000 product parts occur in projection phase (Doğan,1998:200; Can,2004:34). After projection phase, the flexibility of cost-decreasing becomes largely limited in production phase (Lee,1996:68). Therefore, projection-based cost management is based on the principles of managing cost before its occurrence. Kato states that the projection and development of product is very crucial phase to decrease cost (Kato,1993:35). Even though product costs occur largely in production phase, those costs are mostly determined/ undertaken in projection phase (Ansari et al,1997:13). In other words, while the costs occur in projection and development phase of product life cycle, are future costs; in production phase the accrual costs of related term take place. In production term, because most of the accrual costs occur in production and development phase and are also costs deferred to production phase and here, cost management applies the principles of managing cost along product life cycle

(Hacırüstemoğlu and Şakrak,2002:121; Acar,2005:62; Bahşi and Can,2001:54). Hence, cost management concentrates on projection phase of a product that enables to decrease cost during its all life cycle and examines its influence on all costs from its R&D to its recycling. Cost management encourages all departments of company participated in the process examine their product projection in order to make necessary technical changes before production phase (Ansari et al,1997:13).

Projection analysis includes forecasted production cost as well as undergoing costs after production (like service and assurance costs). The company can figure out whether improvements on products will cause unexpected cost before and after production in customer value and income by examining production cost as well as downstream cost (Blocher et al,2005:7). Thus, most of required changes in product or its projection can be made before production phase. On the other hand, in traditional costing systems most relevant changes are made right after production phase (Ansari et al,1997:13).

4. THE PURPOSE, SCOPE AND CONSTRAINTS OF THE STUDY

4.1. The Purpose of the Study

The purpose of this paper is to determine and to examine the production costs and their management methods of Turkish Manufacturing Companies on which no comprehensive study has been made previously. In accordance with the purpose, a descriptive study is made on private manufacturing companies listed in top 500 index the largest-scale companies yearly reported by Istanbul Chamber of Commerce.

4.2. Universe, Scope and Constraints

The universe of the study consists of the private sector manufacturing companies listed in the "Top 500 Turkish Industrial Entities" announced yearly by the Istanbul Chamber of Commerce (ICI). Within 2007 ICI 500, there are 487 privately-held companies. Of

these, 15 companies which did not want their names to be revealed; and 21 companies operating in mining and electricity production industries which were thought of not suitable for this study, were left out of the scope. Eventually, 451 companies listed in 2007 ICI 500 index made up the universe of the study.

The reason of selecting the companies listed in ICI 500 as the universe of the study is the belief that these companies are more institutionalized and hence they have the strong cost discipline necessary for determining and decreasing of manufacturing costs and that more reliable and consistent information can be derived from these companies.

5. THE METHODOLOGY OF THE STUDY

5.1. Sample Selection, Data Gathering and Survey Preparation

The data used in the study consist of the information gathered via the survey applied to the senior department executives in the ICI 500 companies selected by the simple casual method.

According to the simple casual sample method; when the standard deviation and the variance of the universe are not known, the sample size representing the universe is determined by $n = (\pi(\pi-1) / (e/Z)^2$ formula (Savaş,2003:187). Accordingly, with 95% confidence interval and 5% error margin, the sample size of this study is calculated as $(0,5 \times 0,5) / (0,05 / 1,96^2) = 384$ companies. Because the calculated sample size is larger than 5% of the universe, it is to be derogated by multiplying by the correction factor ((N-n / N-1). According to the formula, correction factor is approximately (451-384 / 451-1) = 0,149. Accordingly the necessary sample size turns out to be 0,149 × 384 = 57 companies. In addition, the questionnaire form was delivered to the 451 companies within the scope primarily via e-mail. Then, appointments were made with 82 of the 109 companies which accepted to response and information was gathered from the executives via face-to-face interviews. Adding the 8 questionnaires which

were seen suitable out of 27 questionnaires sent via fax, e-mail and mail, 90 questionnaires were evaluated. The number of the evaluated questionnaires forms 20% of the universe.

In accordance with the purpose and scope of the study, previous studies and related literature (Kwah,2004:100-103; Borgernas and Fridh,2003:17-30; Dekker and Smidt,2003:299-303; Braxton,1999:33-78; The Consortium for Advanced Manufacturing – International The American Institute of Certified Public Accountants and The University of Akron:1-15) were examined during determination of the survey questions and the scales and preparation of the questionnaire form. Some of the survey questions are multiple-choice and open ended. Others consist of questions rated between "(1)never – (5)always.

5.2. Method of Analysis

No comprehensive research was made in Turkey regarding cost management among manufacturing companies before. Especially there is no information about determination of costs at all.

Descriptive statistical methods such as percentage, frequency and mean were used in the analysis of data obtained from the survey (which was made in order to determine suppliers' cooperation level in the cost determination process). SPSS.16 was used for the analysis of obtained data.

6. EVALUATION OF RESEARCH EVIDENCE

In this section, the number of personnel and the manufacturing methods of the participating companies, and distribution of the respondents of the questionnaire in terms of position, were assessed.

Table 1: Distribution of the Respondent Company Executives According to Positions

	Frequency	Percentage
Engineering	1	1,1%
Accounting/Finance	74	82,2%
Manufacturing/Design	8	8,9%
Marketing	3	3,3%
Other	4	4,4%
Total	**90**	**100%**

In Table 1, distribution of the respondent company executives according to their positions is given. The respondents are senior department executives. Of the respondents, approximately 1% are engineers (cost engineering), 82% percent are accounting-finance managers, 9% are manufacturing and design managers-supervisors, 3% are marketing and purchasing managers and 4% are employees in various departments (management director, auditor, strategic planner and controller). Anket yapılan kişilerin üst yöneticiler olması ve özellikle büyük çoğunluğunun muhasebecilerden oluşması, işletmelerin maliyet yönetimi hakkında daha sağlıklı bilgi alınması açısından önemlidir.

In Table 2, the distribution of the companies in terms of number of personnel is given.

Table 2: Distribution of the Companies In Terms of Number of Personnel

	Frequency	Percentage
100 and below	3	3,3%
101-250	11	12,2%
251-500	22	24,4%
501-1000	21	23,3%
1001-2000	20	22,2%
Above 2000	13	14,4%
Total	**90**	**100%**

According to Tabel 2, approximately 3% of the companies have 100 or less, 12% have 101-250 , 24% have 251-500, 23% have 501-1.000, 22% have 1.001-2.000 and 14% have 2.000 and more employees.

Table 3 shows the company-based distribution in respect of industries and application rate.

Table 3: Distribution of the Companies Based On Industries

	Frequency	Percentage
Automotive	5	5,6%
Electric-Electronic	9	10%
Medical-Optical Instruments	1	1,1%
Medicine	2	2,2%
Machine	3	3,3%
Textile	8	8,9%
Food	14	15,6%
Iron and Steel	10	11,1%
Chemical	7	7,8%
Nonferrous Metals	5	5,6%
Oil-Rubber-Glass	14	15,6%
Paper-Gazette	4	4,4%
Cement	4	4,4%
Others*	4	4,4%
Total	**90**	**100%**

*Forestry and Construction

According to Table 3, the most participatory industries are Food (15,6%), Oil-Rubber-Glass (15,6%), Iron and Steel (11,1%), Electric-Electronic (10%) and Textile (8,9%). The least participatory industries are Medical-Optical Instruments (1,1%), Medicine (2,2%), Machine (3,3%), Paper-Gazette (4,4%), Cement (4,4%), Forestry and Construction (4,4%), Nonferrous Metals (5,6%), Automotive (5,6%) and Chemical (7,9%) Industries.

Table 4 shows distribution of the manufacturing methods of the companies.

Table 4: Distribution of the Manufacturing Methods of the Companies

	Frequency	Percentage
Large-Scaled, Assembly-Oriented Manufacturing	27	30%
Small-Scaled, Assembly-Oriented Manufacturing	2	2,2%

Large-Scaled, Process-Dependent Manufacturing	30	33,3%
Small-Scaled, Process-Dependent Manufacturing	3	3,3%
Custom Order Manufacturing-Assembly	28	31,1%
Total	**90**	**100%**

According to Table 4, approximately 37% of the participated companies have process-dependent manufacturing methods and 63% have assembly-oriented manufacturing methods.

According to these findings, it emphasizes the importance of our paper that most of the respondent companies have common assembly-oriented processes. Because those companies out-source much more components compared with process-oriented manufacturing companies, that's why; they should place more emphasis on cost management.

The competition environment of the participating companies using target costing or similar methods was aimed to determine by directing questions to the executives about how they perceive their operation environments. The results are presented in Table 5.

Table 5: Factors Related to the Operation Environments of the Companies

	N	Very Low	Low	Normal	High	Very High	Mean	Mode
Potential of estimating the operations of the competitors	90	2 2,2%	18 20%	49 54,4%	13 14,4%	8 8,9%	3,08	3
Degree of change in customer joy and expectations in the last 5 years	90	4 4,4%	10 11,1 %	25 27,8%	37 41,1%	14 15,6%	3,52	4
Degree of change in economic, legal and political circumstances in the last 5 years	90	1 1,1%	3 3,3%	33 36,7 %	45 50%	8 8,9%	3,62	4
Degree of change in manufacturing processes and technologies	90	-	4 4,4%	28 31,1%	43 47,8%	15 16,7%	3,77	4
Intensity of the competition	90	-	2	16	40	32	4,1	4

			2,2%	17,8%	44,4%	35,6%	3	
the company faces in the market								

According to the data presented in Table 5; it is realized that most of the companies operate in an environment of very high ambiguity and competition.. Therefore, the use of cost management in the markets with environmental ambiguity and high competition is quite important for the success of the companies. In conclusion, it can be claimed that there is an increasing competition combined with a dynamic environment, and this situation emphasize the importance of cost management for the success of company in cost-decreasing.

The enterprises included in the research were asked several questions concerning the stages they make cost estimation which is made at several stages for determining cost of new products and the attained results are presented in Table 6.

Table 6: Timing of New Products Cost Estimation in the Enterprises

	No idea	Yes	No	Total
After the mental determination of the new product	9 (10%)	55 (61,1%)	26 (28,9%)	90 (100%)
During the design stage of the new product	6 (6,7%)	71 (78,9%)	13 (14,4%)	90 (100%)
After beginning the production of the new product	2 (2,2%)	49 (54,4%)	39 (43,3%)	90 (100%)
After the completion of production	3 (3,3%)	25 (27,8%)	62 (68,9%)	90 (100%)
Cost estimation is not done in any stage	-	4 (4,4%)	86 (95,6%)	90 (100%)

According to Table 6, respondent enterprises make cost estimations seriously and systematically, by 61,1% percent "after the identification of product as a concept", by 78,9% "during the product designation phase" and by 54,4% "After beginning the production of the product". Hereby, it is desirable result for mentality of projection-oriented cost management that cost estimations of relevant companies center in pre-production phase, especially in product projection phase. Because in projection-oriented cost management, by market research, necessary target cost is determined in accordance with the expected functionality and quality and at the same time desired

profit margins, and then the product is projected according to this target cost or cost estimation, instead of waiting for actual cost after production is started. In other words, the costs that will exist during life cycle of the product are determined at pre-production designation phase and the production is done in line with these costs after the designation. So all the costs concerning product are estimated or determined at pre-production phase. Also, the fact that 43,3% of the enterprises states they do not make any cost estimation "after the beginning of the production" and 68,9% of these enterprises do not make any cost estimation "after the end of production" and 4,4% of these do not make any cost estimation. These results show that most enterprises apply partially the projection-oriented cost management.

As a result of these findings, it is considered as positive for the mentality of projection-oriented cost management that most companies estimate their product costs in pre-production phases. Besides, nearly 45,6% of those companies do this "after the beginning of production", 27,8 of those do "at the end of production" show that those companies determine their product costs according to traditional costing approaches. That result contradicts with the mentality of projection-oriented cost management. While traditional approaches focus on determination and controlling of post-production costs, the projection-oriented cost management is based on the management and determination of costs before the materialization of costs. Therefore, the projection-oriented cost management necessitates a cost estimation system that provide an increasing accuracy level from the concept phase of a product until being ready for the designation and an extensive cost planning.

In order to identify the extent of the cost estimation systems and cost planning, the cost components that take place in the cost estimation of a new product were asked to the enterprises included in the research and the results are presented in the Table 7.

Table 7: Cost Components in the Cost Estimation of Enterprises

	Involving	Not Involving	Total
Pre-manufacturing Costs (R&D, Market Research etc.)	58 (64,4%)	32 (35,6%)	90 (100%)
Manufacturing Costs	88 (97,8%)	2 (2,2%)	90 (100%)
Marketing Costs (advertisement, promotion, sale etc.)	77 (85,6%)	13 (14,4%)	90 (100%)
Distribution/Logistic Costs	74 (82,2%)	16 (17,8%)	90 (100%)
Service/Support Costs (Repair-Maintenance, Guarantee etc.)	51 (56,7%)	39 (43,3%)	90 (100%)
Recycling Costs	44 (48,9%)	46 (51,1%)	90 (100%)

According to Table 7, 64,4% of the enterprises uses "pre-production costs", 97,8% uses "production costs", 85,6% uses "marketing costs", 82,2% uses "distribution/logistics costs", 56,7 % uses "service/support costs" and 48,9% uses "recycling costs" in the cost estimations.

Accordingly, by almost all companies, the estimation and determination production costs as the cost component in the pre-production phase is an expected situation for the mentality of the projection-oriented cost management. On the other hand the number of enterprises that estimate pre-production costs like market research and research/development (R&D) costs is lower than the expected for the projection-oriented cost management. As reasons for this result, giving inadequate importance to market research especially to customer analysis and also allocating insufficient resources for R&D activities can be considered. So it can be said that no estimation and cost planning regarding these cost components are made. Similarly, it can not be said that the number of enterprises that estimate service and recycling costs in the pre-production phase is high. However, the majority of enterprises' inclusion of marketing and distribution costs in the cost calculation as the cost component of a new products is a positive situation for the success of the projection-oriented cost management.

The companies unfamiliar with projection-based cost management apply mostly traditional costing approaches and tend to focus on only production phase and disregard the costs of other product life cycle. For this reason, it is concluded that those companies are not familiar with the approach of costing during product life cycle for the success of projection-oriented cost management.

The replies of the enterprises which involve in the research and makes cost estimation activities for the questions regarding cost determination and determination participation rate of departments and value chain members to cost decreasing process are presented in Table 8.

Table 8: Participation Rate of Departments and Value Chain Members to Cost Estimation and Cost Decreasing Process of Enterprises

	N	Never	Rarely	Sometimes	Usually	Always	Mean	Mode
Accounting/Finance	90	6 6,7%	8 8,9%	22 24,4%	18 20,0%	36 40,0%	3,78	5
Sales/Marketing	90	6 6,7%	3 3,3%	20 22,2%	27 30,0%	34 37,8%	3,89	5
Product Planning and Design Engineering	90	8 8,9%	4 4,4%	33 36,7%	13 14,4%	32 35,6%	3,63	3
Purchasing	90	9 10,0%	4 4,4%	33 36,7%	20 22,2%	24 26,7%	3,51	3
Production	90	3 3,3%	5 5,6%	23 25,6%	22 24,4%	37 41,1%	3,94	5
Quality Assurance	90	11 12,2%	12 13,3%	29 32,2%	17 18,9%	21 23,3	3,28	3
Distribution/Logistic	90	24 26,7%	16 17,8%	32 35,6%	8 8,9%	10 11,1%	2,60	3
Suppliers	90	34 37,8%	7 7,8%	35 38,9%	8 8,9%	6 6,7%	2,39	3

According to these results, participation level of departments in interdepartmental composed costing teams cannot be said to be high. Lower participation rate (2,39 –

15,6%[56]) of suppliers which should be the most important members of costing teams, is a constraint for the success of cost decreasing and management.

It is found that because the companies unfamiliar with projection-oriented cost management apply traditional cost management, generally interdepartmental participants in cost estimation and decreasing process are mostly organized from sale/marketing, accounting/finance and especially participation of people in production department. Besides, it can be said that the reason of the fact that the member of the value chain participated in cost estimation and decreasing processes is not at enough number is that those companies are unfamiliar about the approach of costing during product life cycle.

As a result of this data, it is impossible to be successful if the interdepartmentally composed teams are not utilized in product cost estimation and cost decreasing process or the necessary important is not given. At the same time, it can be said that the utilization level and structure of interdepartmentally composed teams depends on enterprises' adoption level of product life cycle costing approach and the scope cost planning.

The results regarding the application level of the activities that the enterprises involved in the research do for decreasing the product costs are presented in Table 9.

Table 9: Application Level of Strategies That Will Be Followed By Companies When Costs Foreseen In the Projection Phase Is Exceeded

	N	Never	Rarely	Sometimes	Usually	Always	Mean	Mode
The estimated sale price of the product is increased	90	12 13,3%	13 14,4%	31 34,4%	31 34,4%	3 3,3%	3,00	3
The expected profit margin from the product is	90	6 6,7%	11 12,2%	42 46,7%	28 31,1%	3 3,3%	3,12	3

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[56] Percentages amount the sum of Usually and Always options.

decreased								
The features and functionality of the product are decreased	90	67 74,4%	11 12,2%	11 12,2%	-	1 1,1%	1,41	1
The cost targets of the product are increased	90	53 58,9%	15 16,7%	15 16,7%	6 6,7%	1 1,1%	1,74	1
The product is abandoned	25	27 30%	20 22,2%	34 37,8%	6 6,7%	3 3,3%	2,31	3

According to these data, most of the companies give priority to decreasing the amount of profit expected(3,12 – 34,4% [57]) and increasing the foreseen price of the product(3,00 – 37,7%) strategies. Decreasing the profit margin by the management which is determined according to the strategic purposes of the firm may be an appropriate strategy to increase the market share of the product and to position it in the market. Although decreasing the target profit margin may seem negative at first glance, with an increase in sales related with market conditions or with an decrease in the cost of the product related with its lifecycle, reaching the targeted profit rate will be possible. Secondly, in the projection-oriented cost management, increasing of target sale price, which should be determined according to wishes and solvency of customers, maybe is the last strategy to apply. Because in the competitive market conditions, acting with cost-plus pricing contrasts strongly with projection-oriented cost management. In order to determine a high price level, product should be really new product which can raise its value perceived by customers and should be different from its rival products or business should have the monopolist or price determining position in the market. But, this situation should be carefully analyzed in terms of market share or sales volume which will enable the level of profitability which the business desires. The third strategy of companies to define the implementation degree is either abandoning the product or disapproving [discarding] its production (2,31 - 10%) as a last resort. Because, too much time and effort has been allocated to the product. Although in successfully implemented projection-oriented cost management, the possibility of abandoning the

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[57] Percentages amount the sum of Usually and Always options.

product is too low, this strategy should be resorted just in the cases where alternative solutions exhausted for achieving cost targeting. However manufacturing of any product that doesn't contribute to the strategic goals of the business should not be let. The fourth strategy of companies for implementation degree is shrinking product qualities and functions (1,41 – 1,1%). This strategy should be implemented if diminishing qualities of the product affect market price, which is used for determining the cost targets, positively. The strategy of raising cost targets of a product (1,74 – 7,8%) should be resorted in extra-ordinary cases if presence of a specific product increases the demand of other products that enforces continuation of the product line; or in cases on time product supply prevents market share and income loss. In such cases cost increases should be dealt immediately by over viewing design process in detail and developing other counter measures. Incautious measures distort necessary discipline for achieving cost targets.

Consequently, companies' primary strategy of increasing selling prices affects the implication of cost targeting negatively. Scarce need for application of increasing cost targets strategy is particularly good.

The results regarding the application level of the activities that the enterprises involved in the research do for decreasing the product costs are presented in Table 10.

Table 10: Application Level of the Cost Decreasing Activities Done by the Enterprises

	N	Never	Rarely	Sometimes	Usually	Always	Mean	Mode
Trying to supply inexpensive materials and parts without making concessions on quality	90	4 4,4%	3 3,3%	7 7,8%	32 35,6%	44 48,9%	4,21	5
Using low quality and more inexpensive materials and parts	90	69 76,7%	13 14,4%	5 5,6%	1 1,1%	2 2,2%	1,38	1
Focusing on product	90	8	13	17	34	18	3,46	4

design		8,9%	14,4%	18,9%	37,8%	20%		
Removing the features and functions that increase the cost of the product	90	36 40%	19 21,1%	27 30%	5 5,6%	3 3,3%	2,11	1
Redesigning the pre and post-production processes by continuously reviewing them	90	5 5,6%	10 11,1%	14 15,6%	28 31,1%	33 36,7%	3,82	5

In Table 10, the cost decreasing activities of the enterprises according to application level are respectively; "trying to supply cheaper materials and parts without compromising quality" (4,21 – 84,5%[58]), "examining and redesigning pre and post-production phases" (3,82 – 67,8,3%), "concentrating on product design" (3,46 – 57,8%), "extracting the features and functions that increases the product cost" (2,11 – 8,9%) and "using low-quality materials and parts" (1,38 – 3,3%).

According to these results, it can be said that a majority of the firms tend to behave according to the approach of projection-oriented cost management in order to decrease the costs of the products. Because projection-oriented cost management is a strategic profit and cost management process which aims at decreasing the total costs throughout the lifecycle of the product by concentrating on its design which will enable it to be produced at a cost level that will enable the firm to reach the target profit level or market share without giving concessions from the quality, specialty and functioning of the product that the customers are expecting and are willing top pay for. As understood from this definition, in the projection-oriented cost management, neither low quality inputs should be used or the functions and features that the customer is willing to pay for should not be extracted from the product in order to decrease costs. On the contrary, the projection-oriented cost management underlines the fact that a firm should reach and go beyond the rival products in every one of these components in order to sustain its competitiveness. At the same time, projection-oriented cost management accepts the design of products and processes as the critical point of cost

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[58] Percentages amount the sum of Usually and Always options.

management and cost decreasing. Because more than 80% of the lifecycle cost of a product is determined during the design and development stage and because the product and process technologies begin to be more integrated, both the design of the product and the activities needed to produce the product is the most important factor for cost decreasing. This is why during the projection-oriented cost management process, by focusing on the design, which will enable cost decreasing throughout the lifecycle, it is determined whether the design may or may not cause after production costs which are not appropriate for customer value and income. Thus, in this way some time consuming and expensive changes that might be faced are eliminated beforehand and both the cost of the product and market entrance period is decreased.

7. CONCLUSION

Since the industrial revolution, technological developments along with changes in economic and social scopes have started to change step by step and especially gained fast from the beginning of 1980s. Those developments eventually cause radical changes in the structure of market where companies operate. That's why; production cost management that covers product innovations and designs has become a critical issue in today's business world.

The primary results of this evaluation study of the application level of the projection-oriented cost management among the Turkish manufacturing enterprises (ICI 500) can be summarized as follows:

- Majority of the companies operate in competitive market conditions increasing important of the projection-oriented cost management.

- Majority of the companies apply partially projection-oriented cost management.

- While most of the sample companies include costs of pre-production, production and marketing in estimations of product cost, almost half of the sample companies disregard service/maintenance cost along with recycling cost in cost estimations, restrict the success of cost management. This shows that the application of product-life-cycle costing is not implemented properly by companies.

- Business segments' and especially suppliers' low-level participation in cost-reduction efforts will be an important constraint in reducing costs at will. Finally, the role of suppliers is very limited in cost management in Turkish companies

- Majority of the companies tend to behave according to projection-oriented cost management in order to decrease the costs of the products.

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THE EFFECTS OF MANAGEMENT DEMOGRAPHY ON AUDITOR CHOICE AND EARNINGS MANAGEMENT: EVIDENCE FROM CHINA

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Abstract

The literature shows that audit quality and earnings management are related. In addition, there is also some evidence revealing that higher quality auditors provide significant external governance. As top management plays a vital role in designing and implementing corporate governance policy, we conjecture that management demography and internal corporate governance characteristics affect auditor choice, which in turn together with management demography influence earnings management. Using a sample of 3,881 firm-year observations between 2001 and 2005 in China, we find that a board employing a chairperson with professional or academic certification (i.e., holding titles) and a higher percentage of independent directors tends to hire better quality auditors. Furthermore, chairpersons with titles and longer tenure conduct less earnings management. Our results are robust using different measures of auditor quality and discretionary accruals.

Keywords: Auditor quality; Management demography; Corporate governance; Earnings management

1. Introduction

Controlling for corporate governance and firm characteristics, this study examines how management demography affects auditor choice and hence earnings management. Our hypothesis is based on three areas of literature: 1) the effects of audit quality on earnings management; 2) the relation between corporate governance and audit quality; and 3) the influence of management demography on corporate behavior. While little research has been done in the literature in examining the relations between management demography and accounting decisions, management theories long ago have recognized the important role of top management in determining the success of a firm. In particular, the upper echelons theory by Hambrick and Mason (1984) and Hambrick (2007) suggest that demographic characteristics of top executives can play a significant role in shaping organizational outcomes. Also, the resource-based view of firms by Barney (1991) and Hitt, Bierman, Shimizu, and Kochhar (2001) propose that human capital is a crucial intangible asset for firm operation and decision.

The accounting literature clearly demonstrates some relations among corporate governance, audit quality and earnings management. Extending the

assertions of upper echelons theory and resource-based view, we conjecture that top management demography plays a vital role in influencing the design and implementation of corporate governance policy. As Fan and Wong (2005) conclude that auditors serve as an external corporate governance tool, especially in emerging markets, we hypothesize that management demography affects auditor choice. Finally, we further conjecture that management demography and audit quality jointly influence earnings management.

Employing 3,881 firm-year observations between 2001 and 2005 in China, we find evidence to support our hypothesis that chairpersons with professional or academic titles and a board with a higher percentage of independent directors hire better quality auditors. Furthermore, chairpersons with titles and longer tenure conduct less earnings management. Our results are robust using different measures of auditor quality and earnings management. Following this introduction is the section on theoretical background and hypothesis. The data and methodology are described in Section 3. We present the empirical results in Section 4 and conclude our study in Section 5.

2. Theoretical Background and Hypothesis

Corporate governance and audit quality

Past corporate governance literature mainly focuses on board governance and its effects on performance (Lee, Rosenstein, Rangan and Davidson 1992; Yermack 1996). In particular, Xie, Davidson and DaDalt (2003) suggest that an active board should perform the monitoring function better than an inactive board. Francis, Khurana, and Pereira (2003) report that the demand for high quality auditor is lower for countries with weaker legal environment than for the countries with stronger legal environment.

Fan and Wong (2005) argue that as the agency conflicts between controlling shareholders and minority shareholders are difficult to be resolved by traditional

corporate control tools such as board of directors, auditors can serve as an external agent to take up an important corporate governance role, particularly in emerging markets. Choi and Wong (2007) further find that auditors play a more important role in corporate governance in countries with weak rather than strong legal institutions.

Audit quality and earnings management

Previous studies in audit literature cover extensively on the relation between agency problems (Francis and Wilson 1988; DeFond 1992) or institutional including legal, political and economic factors and choice of auditors (Choi and Wong 2007; Wang, Wong and Xia 2008). Here we focus on the relations between audit quality and earnings management. Auditors can help to solve an agency problem of adverse selection by enhancing the credibility and informativeness of financial reports (Becker, DeFond, Jiambalvo and Subramanyan 1998). Based on this argument, better audit quality should lead to stronger public and market pressure for a firm to engage in earnings management. In fact, the literature has recently documented some international evidence for the effects of audit quality on earnings management. Tendeloo and Vanstraelen (2008) find that high quality auditors provide a constraint on earnings management for private firms in European countries. Chen, Chen, Lobo, and Wang (2008) show that state-owned and family-owned firms in China using high quality auditors conduct less earnings management. In short, these studies provide the necessary foundation for us to propose the possible moderation effect for management demography on the audit quality-earnings management relation.

Management demography and corporate behavior

Early literature in management (Hall 1977) and population ecology (Hannan and Freeman 1977) suggest that organizational outcomes including performance are mainly determined by bureaucratic rules and environmental selection. Then a recently emerging management theory, upper echelons theory (Hambrick and Mason 1984; Hambrick 2007), proposes a new perspective and argues that top management makes

a difference and is key factor in shaping organizational outcomes. Under the upper echelons literature, common management demographic characteristics that have a significant influence on organizational outcomes include gender (Farrell and Hersch 2005), education level (Boyatzis 2004), age, and tenure (Barker and Mueller 2002). Another popular management theory, resource-based view (RBV), echoes back a similar argument. From the RBV perspective, human capital is an essential intangible asset for firm operations (Hitt, Bierman, Shimizu, and Kochhar 2001). Both theories suggest that top executives represent an essential resource for the firm to generate superior performance.

Why China and why chairperson of the board?

There are several reasons why we choose the Chinese market for our study. China is one of the largest and fastest-growing emerging markets in the world. The growing economic significance of the Chinese market in the global economy arouses the attention of the local and international investors to the issue about the right type of top executives for effective management and corporate governance practice. Despite the rapid economic growth, the development of the financial infrastructure and regulatory system are still not mature. The Chinese market is characterized with concentrated ownership by controlling shareholders and weak legal institutional environment. In such kind of legal environment, investor protection is inadequate (La Porta, Lopez-De-Silanes and Shleifer 1999). Poorer corporate governance system may lead to lower demand of audit quality (DeFond, Wong and Li 2000).

DeFond, Wong and Li (2000) propose several institutional characteristics that impede the supply and demand of high quality audits in the Chinese market.[59] Gul,

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[59] Some of the impediments are a lack of corporate governance mechanisms for investor protection; government ownership of state-owned enterprises (SOEs) and audit firms and the perverse management incentives due to government ownership.

Sun and Tsui (2003) find the market reaction to earnings increase is stronger for firms with high quality auditors. Chan, Lin and Mo (2006) show that after receiving qualified opinions, the local government-owned-firms switch from non-local to local auditors to achieve opinion shopping. Wang, Wong and Xia (2008) provide evidence that three institutional factors of extent of state ownership, level of market and legal development and degree of government power over auditors affect auditor choice.

In short, in an emerging market like China where the government is the controlling shareholders of many listed SOEs in the market and a large proportion of domestic CPA firms are related to the government directly or indirectly, there is a question how the auditors may work with top management in China to perform their monitoring function. Therefore, it is important to explore the relation between management demography and choice of auditors in China.

The next issue needed discussion is why we study chairperson instead of chief executive officer (CEO) or general managers. The management structure is different between the US (or Europe) and China. The chairperson ranks higher than the CEO in the firm and is usually the highest paid executive (Firth, Fung and Rui 2006). Li and Yang (2003) even point out that the chairpersons in China involve in the daily management and operation of the firms.

Hypothesis

Our hypotheses can be divided into two separate but consecutive parts. The first part deals with how management demography affects auditor choice. The second part examines how management demography and auditor choice together may affect earnings management. Based on the three areas of literature discussed above, we can draw the following concluding argument. Top managers shape corporate culture with its management philosophy, which directly influence how the corporate governance policies are implemented. The choice of auditor is an issue relating to corporate governance of the firm. In addition, auditors play an important part in

479

influencing management reporting discretion. Extending the argument of Fan and Wong (2005) which suggests that auditors can serve as an external agent to perform the corporate governance function, we conjecture that the internal governance characteristics are related to management demography, which affects the external governance monitoring mechanism: the choice of auditor. This is the first part of our hypothesis.

Second, the selection of auditor and earnings management strategy are major decisions to be made by top executives. The literature has already shown that there is a relation between audit quality and earnings management. Extending the first part of our hypothesis here, we hypothesize that management demography and audit quality jointly influence the financial reporting discretion and consequently the level of earnings management of the firm. We formulate the following general hypothesis:

H1:   *The demographic characteristics of a chairperson are related to auditor quality and magnitude of earnings management.*

Based on the five demographic characteristics of the chairperson (title ownership, gender, tenure, age and education level) in the subsequent empirical analysis, we formulate five sub-hypotheses to delineate their respective influence on audit quality and earning management.

<u>Title ownership</u>

In addition to the common demographic characteristics (gender, education level, age, and tenure) suggested by the upper echelons literature, we propose to add a new demographic characteristic namely "title" (i.e., professional and academic certification status) of chairperson in our study. Certification status can be defined as receiving professional and academic certification such as certified public accountants (CPAs), certified engineers, and professorship. Sollenberger (1986) shows that Chinese have a long tradition in pursuing personal certification through higher education and professional qualifications. We expect that there is an association of employment of

quality auditor and title ownership of chairperson. The chairpersons with title status would tend to use higher quality auditors as titled chairpersons believe in the importance of higher audit quality. In addition, based on our argument of titled chairpersons employing higher quality auditor and the literature that the employment of higher quality auditor would lead to less earnings management, we can expect that titled chairpersons would be associated with less earnings management.

H1a: Chairperson's title is positively related to audit quality and negatively related to magnitude of earnings management.

Gender

An increasing number of females have taken up the senior executive positions in the traditionally male-dominating business world. There are a number of studies examining the aggressiveness, leadership ability and qualifications of executives (Schein 1973; 1975) and find that both male and female managers perceive that males are more likely to possess the characteristics associated with managerial success. Kalleberg and Leicht (1991) find that it is more likely for male executives than the female counterparts to accept and undertake innovative corporate strategies and business projects. Therefore, we expect that there should be a difference for firms chaired by female or male on the decisions of auditor choice and earnings management in a culturally masculine society like China.

H1b: There is a difference in the decisions for auditor choice and earnings management for firms led by female and male chairpersons.

Tenure and age

Management literature indicates that tenure of managers is related to the propensity to accept new changes and risk. Hambrick and Fukutomi (1991) find that as tenure increases, CEOs tend to make fewer changes in corporate strategy. In addition, Hambrick and Mason (1984) suggest that older top managers, as compared to younger top managers, are more conservative and risk averse. We expect more experienced

and older chairperson should be more conservative than less experienced and younger chairperson. Therefore, more experienced and older chairperson should choose higher quality auditor and be less likely to engage in earnings management activity.

H1c: *Chairperson's tenure is positively related to audit quality and negatively related to magnitude of earnings management.*

H1d: *Chairperson's age is positively related to audit quality and negatively related to magnitude of earnings management.*

Education level

In the upper echelons literature, education level is related to open mindedness and ability to evaluate alternatives (Herrmann and Datta 2002). Wally and Baum (1994) find that more educated top executives are less conservative. Therefore, we expect that more educated chairperson should be less conservative in auditor choice and more aggressive in financial reporting decision to engage in earnings management activity.

H1e: *Chairperson's education level is negatively related to audit quality and positively related to magnitude of earnings management.*

3. Data and Methodology

We retrieve our data of all firms (except those in the finance industry) listed on the Shanghai Stock Exchange and Shenzhen Stock Exchange in our sample period over five years between 2001 and 2005 from the China Securities Markets and Accounting Research Database (CSMAR) and Wind Financial database (WindDB). After matching all the management demographic and firm level data, there are 3,881 firm-year observations in our sample.

3.1 Regression Model

We examine the relation between earnings management, auditor choice and management demography through the following two-stage least-square regression models (1) and (2):

$$AQD = \alpha_0 + \beta_1 \text{ Title} + \beta_2 \text{ Gender} + \beta_3 \text{ Tenure} + \beta_4 \text{ Age} + \beta_5 \text{ Edu} + \beta_6 \text{ BoardSize}$$
$$+ \beta_7 \text{ IndDirRatio} + \beta_8 \text{ DirHolding} + \beta_9 \text{ EPS} + \beta_{10} \text{ DA} + \beta_{11} \text{ MB} + \beta_{12} \text{ LnAsset}$$
$$+ \beta_{13} \text{ ForeignD} + \beta_{14} \text{ NonSOED} + \beta_{15} \text{ Develop} + \beta_t \sum_t \text{Year}_t + \beta_j \sum_j \text{ Industry}_j$$

$$(1)$$

$$EM = \alpha_0 + \beta_1 \text{ FVAQD} + \beta_2 \text{ Title} + \beta_3 \text{ Gender} + \beta_4 \text{ Tenure} + \beta_5 \text{ Age} + \beta_6 \text{ Edu} + \beta_7 \text{ BoardSize}$$
$$+ \beta_8 \text{ IndDirRatio} + \beta_9 \text{ DirHolding} + \beta_{10} \text{ EPS} + \beta_{11} \text{ DA} + \beta_{12} \text{ MB} + \beta_{13} \text{ LnAsset}$$
$$+ \beta_{14} \text{ NonSOED} + \beta_t \sum_t \text{Year}_t + \beta_j \sum_j \text{ Industry}_j$$

$$(2)$$

3.2 Measurement of Auditor Quality

In the audit literature, market share in terms of revenue or audited assets of an audit firm is used to measure audit quality (e.g., Becker, DeFond, Jiambalvo and Subramanyam 1998). Thus international Big-N CPA firms (previously Big 8, then Big 6, and then Big 5, and now Big 4) are used as a proxy for higher quality (DeAngelo 1981; Gul and Tsui 1998). Studies using Chinese firms also use total audited assets of clients to rank auditors to proxy audit quality (DeFond, Wong and Li 2000). DeFond et al show that firms audited by Top 10 auditors have better audit quality than firms audited by non-Top 10 auditors.

However, in developing markets such as China, the audit market is still mainly dominated by the government-affiliated or domestic CPA firms in terms of the number of clients. For instance, in terms of revenue, the international Big-4 firms do rank the highest four audit firms between 2002 and 2005 in China[60]. However, in terms of

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[60] Based on the information of www.esnai.com, the total revenues earned by the Big-4 CPA

audited assets, one of the Big-4 international CPA firm cannot make it to the top 10 during the same period. Recently, Wang, Wong and Xia (2008) provide three reasons why local and smaller auditors in China are actually preferred by local and central SOEs[61].

Based on the methodology of DeFond, Wong and Li (2000), we use the market share (in terms of audited assets) of an audit firm as a proxy of auditor quality. First we construct an annual list of auditor by market share. Basically, we compute the total audited assets for each auditor per year. Based on this list, we can rank the auditors by market share, which proxies their quality. Our proxy of auditor quality is the traditional measure of a dummy variable (AQD). We construct three versions of AQD (AQD1 for Top 5, AQD2 for Top 10, and AQD3 for Top 15). For instance, AQD1 is coded 1 if the audit firm is in the Top-5 category and 0 otherwise.

3.3 Measurement of Earnings Management (EM)

Large audit firms have more reputation capital at stake and hence should be more resistant to management pressure not to report contract breach (DeAngelo 1981).

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firms between 2002 and 2005 are RMB4,718,368,200 for PriceWaterhouse and Coopers, RMB2,462,856,400 for Ernst and Young (HuaMing and DaHua), RMB2,234,605,300 for Deloitte and RMB2,396,702,400 for KPMG.

[61] Wang, Wong and Xia (2008) mention several reasons why the local and central SOEs prefer small local auditors rather than Top 10 or non-local auditors. One reason is the preferential treatments given to the local and central SOEs in the product and capital markets by the stock market regulators and the government's or state's banks (Brandt and Li 2003). In addition, as the outside shareholders expect the government to provide bailout to the SOEs in times of financial problems, the SOEs have a weaker demand for Top 10 auditors to provide financial insurance or to mitigate the agency problems. Another reason for the preference to the small local audit firms by the SOEs is that the small local auditors have specialized knowledge of the local government and of the SOEs which are in the same regions.

Therefore, higher audit quality can help constraining the magnitude of earnings management. Becker, DeFond, Jiambalvo and Subramanyam (1998) find that there is a larger discretionary accrual reported by non-Big 6 auditors (lower audit quality) than by Big 6 auditors (higher audit quality). As a result, we expect a negative relation between auditor quality and earnings management. We have two measures of EM. The first measure is the modified Jones model (Dechow, Sloan and Sweeney 1995) (MJAC). The second measure is the performance-matched discretionary accrual model (PMAC) of Kothari, Leone and Wasley (2005).[62] We use the absolute values of MJAC and PMAC to examine the magnitude of earnings management.

3.4 Measurement of Management Demography

Based on our hypothesis, the five personal attributes of chairpersons we examine are title, gender, tenure (year of experience as chairperson), age, and education level. Title is a dummy variable for title, which is coded 1 if the chairperson holds a title (academic title or professional title) and 0 otherwise. We use Gender, which is a dummy variable coded 1 if the chairperson is a female and 0 otherwise to test if there is a difference in auditor choice and earnings management. Tenure is a measure of experience, which is the number of years the chairperson stays in office. Age is the age of chairperson. Edu is a dummy variable coded 1 if the chairperson has a four-year university degree or above and 0 otherwise.

3.5 Control Variables

Measurement of Board Governance Factors

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[62] We also use the performance-matched discretionary accrual model because this method controls for the effect of performance on discretionary accrual which improves the reliability of inferences from earnings management. We use the current year's return on assets (ROA_t) as the additional performance matching variable in the modified Jones model (Dechow, Sloan and Sweeney 1995) to estimate the performance matched discretionary accrual each year for each industry.

Fama (1980) argues that the directors on the board should be effective monitors and are important governance mechanisms as they have their reputation at stake in the director labor market. One of the functions of the board of directors is to oversee firm management. A good-governed board represents a good internal corporate governance mechanism and hence would be expected to have a high quality external monitoring agent (auditor) to oversee the firm's financial reporting process. We include board size (BoardSize), independent director ratio (IndDirRatio), and percentage of directors' shareholding (DirHolding) as the corporate governance factors in our model.

DirHolding is the ownership percentage of all directors on board. Agency theory suggests that awarding firm shares to top managers can help reduce conflict of interests between managers and shareholders (Jensen and Meckling 1976). Therefore, the percentage of directors' shareholding is related to standard of corporate governance, and hence the choice of auditor. In addition, Warfield, Wild and Wild (1995) argue that the percentage of managerial ownership is an important factor of discretionary accruals and find a negative relation between managerial ownership and accruals.

Firm Financial Measures

We include several financial measures (EPS, DA, MB and LnAsset) of firms in our model as control variables. EPS is earnings per share. DA is debt to asset ratio which is a measure of firm risk. Information asymmetry is positively related to firm risk. MB is ratio of market value to book value of equity. LnAsset is log of total assets which is a measure of firm size.

Firm Demographic Characteristics

We have three firm demographic characteristics (ForeignD, NonSOED and Develop) in our model. The financial statements of firms with foreign investors (B-shares r H-shares) have to be prepared according to International Accounting

Standards and to be audited by international CPA firms. We have to include the variable, ForeignD, in the model as the fact whether the firms issue foreign shares would affect the choice of auditor. ForeignD is a dummy variable coded 1 if the firm issues domestic A-shares and B-shares or H-shares and 0 otherwise.

Wang, Wong and Xia (2008) find that the institutional factors (both economic and political) of the extent of state ownership and level of market development affect auditor choice in the Chinese market. Therefore, we include NonSOED and Develop in the model as control variables. NonSOED is a dummy variable coded 1 if the firm is a non-state-owned enterprise and 0 otherwise. It is expected that the demand for auditor quality to play a monitoring role and likelihood to engage in earnings management activity are higher for non-SOEs than for SOEs. The variable, Develop, is the index score of marketization for each province in China (Fan, Wang and Zhang 2001) which captures the development disparity of different regions.

In summary, our variable selection for equation (1) for AQD and equation (2) for EM models are very similar as most of the variables can be linked to audit quality and earnings management with some theoretical support. The two exceptions are ForeignD and Develop as we do not have a strong theoretical argument to relate them to earnings management. Therefore, we exclude ForeignD and Develop in equation (2).

4. Empirical Results

We report the descriptive statistics (mean, median, maximum, minimum, and standard deviation) of audit quality measure (AQ), earnings management proxy (EM), management demographic characteristics and other control variables for our sample firms in Table 1. Of our 3,881 observations, there are 952 and 2,929 firms employing audit firms with high quality and audit firms with low quality, respectively. These statistics are consistent with the previous studies that the audit market in China is

dominated by the government-affiliated auditors (DeFond, Wong and Li 2000; Wang, Wong and Xia 2008). There are 3,112 chairpersons holding academic or professional certification titles. The mean of years of chairpersons (Tenure) staying in office is 3.78 years. The chairpersons have an average age of 49.60 in our sample. The number of females holding positions of chairpersons is very few. In our sample, there are only 164 female chairpersons (Gender). A majority of chairpersons (Edu = 79.34%) have university degrees[63]. To save space, we use all three AQDs only in our first-stage regression analysis in Table 3, and focus on AQD2 (Top-10) for the rest of our analysis.

4.1 Distribution Analysis and Two-sample T-test Comparison

In Table 2, we use distribution analysis and two-sample t-test for measuring differences of subsamples with different levels of auditor quality (Panel A) and earnings management (Panel B). Of the five demographic characteristics, there are significant differences in the level of auditor quality (AQD2) for the chairpersons with and without certification status (Title), who stay in office for longer and shorter time period (Tenure), and who are older and younger in age (Age). Those chairpersons with titles prefer auditor with higher to lower quality. In addition, more experienced and older chairpersons prefer auditor with higher quality.

In Panel B, there are significant differences in ⏐MJAC⏐ and ⏐PMAC⏐ for the chairpersons with and without titles and university degree. The chairpersons with titles tend to be more conservative and those with university degree tend to be more

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[63] In our sample, the number of chairpersons holding university degree is smaller than that holding professional certification. This may be due to the 10-year Cultural Revolution in China during 1966-1976. The Cultural Revolution closed down the education system for 10 years, and consequently, leading to a lack of an entire generation of university-educated individuals. However, the chairpersons can obtain their nationally accredited professional certification without going to university.

aggressive in financial reporting. Consistent with the result of Becker, DeFond, Jiambalvo and Subramanyam (1998) that there is a larger discretionary accrual reported by non-Big 6 auditors (lower audit quality) than by Big 6 auditors (higher audit quality), we find that firms hiring higher quality auditor are less aggressive in financial reporting than firms hiring lower quality auditor.

4.2 Regression Analysis

First-stage Least-square Regression (Equation 1)

The results for first-stage least-square regression model (equation 1) are reported in Table 3 respectively. In Table 3, we use three measures of audit quality (AQ), AQD1, AQD2 and AQD3, to differentiate high and low audit quality. We hypothesize that management demographic characteristics of chairperson should be related to auditor choice. In particular, we expect that the chairpersons with certification status would prefer higher quality auditors for corporate governance. Of the five demographic characteristics, we find that Title is positively related to the three measures of AQ (AQD1, AQD2 and AQD3). The positive relation indicates that the chairpersons with certification status are more likely to use high quality auditors. Therefore, the results are consistent with our hypothesis.

We include BoardSize, IndDirRatio and DirHolding as our board governance factors. Our results in Table 3 show that there is a significant and positive relation between different measures of audit quality (AQD1, AQD2 and AQD3) and IndDirRatio. This finding supports our argument that independent directors have little motivation to make risky decisions for the firms, leading to the practice of favoring safer choice, i.e., hiring high quality auditors. The coefficient on DirHolding is positively and significantly related to AQD3, indicating that firms with higher directors' ownership percentage hire higher quality auditor.

EPS, DA MB and LnAsset are included as control variables for firm performance. Datar, Feltham and Hughes (1991) suggest that high risk firms have a

higher signaling demand for audit quality. Choi and Wong (2007) suggest that firm size affects the scale, complexity and level of effort of an audit. Consistent with our expectation, the coefficients on LnAsset and MB are positively significant. In addition, the coefficient on DA is negative, implying that firms with high leverage are more likely to hire lower quality auditors.

Among our firm demographic characteristics, ForeignD and Develop are significant while NonSOED is not. As it is more likely for firms which also issue foreign shares to hire international Big 4 CPA firms as their auditors, a positive relation between ForeignD and different auditor quality measures is found. In Table 3, the coefficients on Develop are positively significant, indicating that firms in more developed regions are more likely to hire higher quality auditors.

Second-stage Least-square Regression (Equation 2)

The results for second-stage least-square regression model (equation 2) are reported in Table 4. DeAngelo (1981) argue that large audit firms have more reputation capital at stake and hence should be more resistant to management pressure not to report contract breach. There is a larger magnitude of accruals reported by lower quality auditors than by higher quality auditor (Becker, DeFond, Jiambalvo and Subramanyam 1998). In Table 4, the coefficients on AQD2 are negatively and significantly related to |MJAC| and |PMAC|.

We use Title to test if certification status is important management demography to reflect human and social resources of upper echelons in preparing financial statement using earnings management techniques. The coefficients on Title are significantly and negatively related to |MJAC| and |PMAC|, suggesting that the chairpersons with professional title are also more prudent rather than more aggressive in preparing the financial statement of their firms. The coefficient on Tenure is negatively related to |MJAC| and |PMAC|. Our finding is consistent with this conjecture that the longer the

number of years the chairpersons stay in office, the more conservative and risk averse they would become and consequently, the less likely they would use earnings management techniques.

Among the board governance factors (BoardSize, IndDirRatio and DirHolding), only IndDirRatio is found to be significantly related to the measures of abnormal accrual. We have four financial measures (EPS, DA, MB and LnAsset) as control variables (Becker, DeFond, Jiambalvo and Subramanyam 1998). DA is positively related to |MJAC| and |PMAC|, showing that the firms with high debt-to-asset ratio may need to engage in some opportunistic activities to manage reported earnings to make the firms look better. Market-to-book ratio (MB) is our measure of growth opportunity. Our result of positive relations between |MJAC| and |PMAC| with MB is consistent with the argument that there is a higher likelihood for fast-growing firms than the slow-growing firms to engage in earnings management activities to meet shareholders' expectation (Skinner and Sloan 2002).

5. Conclusion

In this study, we examine if the demographic characteristics of chairperson affect auditor choice, and whether these two factors jointly influence the firms in restricting or permitting earnings management activity. Earnings management is an issue relating to corporate governance of the firm. Weak corporate governance practice can be reflected by evidence of accounting manipulation (Beasley 1996). We focus on the role of the chairperson in permitting earnings management. It is because the chairpersons are supposed to manage the firms for the best interest of shareholders, if the management employs lower quality auditors and manipulates earnings, the information asymmetry between the inside directors and outside shareholders increases, which affects negatively the interest of shareholders.

Auditors play an important role in controlling management reporting discretion and this is also an issue relating to corporate governance. By examining the impact of management demography on auditor choice and earnings management, we provide evidence on the effectiveness of the monitoring mechanism on director behavior and corporate governance and the relation between internal and external monitoring mechanisms of the firms in China. We find that firms managed by chairpersons with titles tend to hire higher quality auditors and engage in less earnings management activity. In addition, firms with a higher percentage of independent directors tend to hire better quality auditors. Furthermore, chairpersons with titles and longer tenure conduct less earnings management.

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Table 1

Descriptive Statistics

|MJAC| is the absolute value of modified Jones version of accrual measure. |PMAC| is the absolute value of performance matched discretionary accrual. AQD1 is a dummy variable coded 1 if the audit firm is in the Top 5 category and 0 otherwise. AQD2 is a dummy variable coded 1 if the audit firm is in the Top 10 category and 0 otherwise. AQD3 is a dummy variable coded 1 if the audit firm is in the Top 15 category and 0 otherwise. Title is a dummy variable for title which is coded 1 if the chairperson holds a title and 0 otherwise. Gender is a dummy variable coded 1 if the chairperson is a female and 0 otherwise. Tenure is the number of years the chairperson stays in office. Age is the age of chairperson. Edu is a dummy variable coded 1 if the chairperson has a four-year university degree or above and 0 otherwise. BoardSize is the number of directors on board. IndDirRatio is the ratio of the number of independent directors to total directors on board. Dirholding is the total shareholding percentage of all directors on board. EPS is earnings per share. DA is debt to asset ratio. MB is ratio of market value to book value of equity. LnAsset is log of total assets. ForeignD is a dummy variable coded 1 if the firm issues domestic A-shares and B-shares or H-shares and 0 otherwise. NonSOED is a dummy variable coded 1 if the firm is a non-state-owned enterprise and 0 otherwise. Develop is index score of marketization for each province in China.

Panel A: Descriptive Statistics

	Dummy Code = 1	Dummy Code = 0	Mean	Median	Maximum	Minimum	Standard Deviation
|MJAC|			0.0594	0.0405	1.0531	0.0000	0.0670
|PMAC|			0.0599	0.0416	1.0577	0.00002	0.0647
AQD1	511	3370					
AQD2	952	2929					
AQD3	1365	2516					
Title	3112	769					
Gender	164	3717					
Tenure			3.7789	3.0000	16.0000	1.0000	2.4493
Age			49.5962	50.000	70.0000	29.0000	7.6458
Edu	3079	802					
BoardSize			9.7910	9.0000	19.0000	4.0000	2.2567
IndDirRatio			0.2771	0.3333	0.6667	0.0000	0.1189
DirHolding			0.0023	0.0001	0.9163	0.0000	0.0299
EPS			0.1620	0.1376	2.3703	-2.1392	0.2869
DA			0.4760	0.4854	0.9338	0.0081	0.1722
MB			2.9450	2.3882	10.9984	0.5651	1.8573
LnAsset			21.2473	21.1668	26.9782	18.3224	0.8835
ForeignD	349	3532					
NonSOED	991	2890					
Develop			6.4723	6.4000	8.4100	3.4000	1.3008

Table 2

Distribution Analysis and Two-sample T-test Comparison

AQD2 is a dummy variable coded 1 if the audit firm is in the Top 10 category and 0 otherwise. Title is a dummy variable for title which is coded 1 if the chairperson holds a title and 0 otherwise. Gender is a dummy variable coded 1 if the chairperson is a female and 0 otherwise. Tenure is the number of years the chairperson stays in office. Age is the age of chairperson. Edu is a dummy variable coded 1 if the chairperson has a four-year university degree or above and 0 otherwise. BoardSize is the number of directors on board. IndDirRatio is the ratio of the number of independent directors to total directors on board. Dirholding is the total shareholding percentage of all directors on board. |MJAC| is the absolute value of modified Jones version of accrual measure. |PMAC| is the absolute value of performance matched discretionary accrual. For the two-sample t-test comparison on earnings management, we use the binary variables of Title, Gender, Edu and AQD2 as grouping variables.

Panel A: Audit Quality

	Dummy Code	AQD2[1] N	Mean	AQD2[0] N	Mean	Mean Difference	Chi -Square
Title	1	799		2313			11.1233**
	0	153		616			
Gender	1	50		114			3.2835
	0	902		2815			
Edu	1	745		2334			0.8957
	0	207		595			
Tenure			4.1450		3.6600	0.4850**	
Age			50.7752		49.2130	1.5622**	

Panel B: Earnings Management

	Dummy Code	N	|MJAC| Mean	Mean Difference	|PMAC| Mean	Mean Difference
Title	1	3112	0.0563	-0.0161**	0.0568	-0.0157**
	0	769	0.0723		0.0725	
Gender	1	164	0.0653	0.0061	0.0626	0.0028
	0	3717	0.0592		0.0598	
Edu	1	3079	0.0605	0.0049*	0.0603	0.0022
	0	802	0.0555		0.0582	
AQD2	1	952	0.0543	-0.0068**	0.0576	-0.0031
	0	2929	0.0611		0.0606	

* parametric test significant at 0.05 level
** parametric test significant at 0.01 level

Table 3

First-stage Least-square Regression Analysis

AQD1 is a dummy variable coded 1 if the audit firm is in the Top 5 category and 0 otherwise. AQD2 is a dummy variable coded 1 if the audit firm is in the Top 10 category and 0 otherwise. AQD3 is a dummy variable coded 1 if the audit firm is in the Top 15 category and 0 otherwise. Title is a dummy variable for title which is coded 1 if the chairperson holds a title and 0 otherwise. Gender is a dummy variable coded 1 if the chairperson is a female and 0 otherwise. Tenure is the number of years the chairperson stays in office. Age is the age of chairperson. Edu is a dummy variable coded 1 if the chairperson has a four-year university degree or above and 0 otherwise. BoardSize is the number of directors on board. IndDirRatio is the ratio of the number of independent directors to total directors on board. Dirholding is the total shareholding percentage of all directors on board. EPS is earnings per share. DA is debt to asset ratio. MB is ratio of market value to book value of equity. LnAsset is log of total assets. ForeignD is a dummy variable coded 1 if the firm issues domestic A-shares and B-shares or H-shares and 0 otherwise. NonSOED is a dummy variable coded 1 if the firm is a non-state-owned enterprise and 0 otherwise. Develop is index score of marketization for each province in China. z-values are adjusted for heteroskedasticity using White's procedure (1980).

	AQD1		AQD2		AQD3	
	N [1]	N [0]	N [1]	N [0]	N [1]	N [0]
	511	3370	952	2929	1365	2516
	Coefficient	z-value	Coefficient	z-value	Coefficient	z-value
Intercept	-22.5191	-13.79	-21.7685	-15.85	-17.8615	-14.34
Title	0.2605	1.79*	0.3020	2.62**	0.2802	2.82**
Gender	0.1335	0.60	0.1092	0.56	0.0983	0.53
Tenure	-0.0129	-0.57	0.0086	0.48	-0.0168	-1.02
Age	-0.0067	-0.79	0.0083	1.33	0.0055	0.98
Edu	0.1110	0.79	-0.0922	-0.88	-0.0815	-0.86
BoardSize	0.0081	0.32	0.0301	1.57	0.0176	1.03
IndDirRatio	2.2289	2.95**	2.0983	3.37**	1.8912	3.24**
DirHoldng	-1.2566	-0.56	1.4284	1.27	2.1199	2.10*
EPS	0.1230	0.68	0.0190	0.13	-0.0865	-0.61
DA	-1.7712	-4.94**	-1.5430	-5.43**	-1.0916	-4.28**
MB	0.2459	7.84**	0.2006	7.23**	0.2038	7.89**
LnAsset	0.9088	11.96**	0.8313	13.14**	0.7019	12.11**
ForeignD	1.5722	10.15**	0.9425	6.54**	1.1636	7.94**
NonSOED	0.1717	1.27	0.0030	0.03	0.0546	0.58
Develop	0.1263	2.83**	0.3245	9.13**	0.2752	8.46**
Year Dummies Included						
Industry Dummies Included						
LR Statistic	523.8008		662.1181		685.9822	
p-value	0.00		0.00		0.00	
N	3881		3881		3881	

* 0.05 significance level (one-tailed)
** 0.01 significance level (one-tailed)

Table 4

Second-stage Least-square Regression Analysis

|MJAC| is the absolute value of modified Jones version of accrual measure. |PMAC| is the absolute value of performance matched discretionary accrual. FVAQD2 is the fitted value of AQD2 estimated in the first-stage least-square regression analysis. Title is a dummy variable for title which is coded 1 if the chairperson holds a title and 0 otherwise. Gender is a dummy variable coded 1 if the chairperson is a female and 0 otherwise. Tenure is the number of years the chairperson stays in office. Age is the age of chairperson. Edu is a dummy variable coded 1 if the chairperson has a four-year university degree or above and 0 otherwise. BoardSize is the number of directors on board. IndDirRatio is the ratio of the number of independent directors to total directors on board. Dirholding is the total shareholding percentage of all directors on board. EPS is earnings per share. DA is debt to asset ratio. MB is ratio of market value to book value of equity. LnAsset is log of total assets. NonSOED is a dummy variable coded 1 if the firm is a non-state-owned enterprise and 0 otherwise. t-values are adjusted for heteroskedasticity using White's procedure (1980).

	|MJAC|		|PMAC|	
	Coefficient	z-value	Coefficient	t-value
Intercept	0.0340	0.83	0.0474	1.19
FVAQD2	-0.0086	-3.40**	-0.0046	-1.79*
Title	-0.0088	-2.85**	-0.0088	-2.94**
Gender	0.0033	0.53	-0.0003	-0.05
Tenure	-0.0019	-4.23**	-0.0015	-3.32**
Age	0.0002	1.28	0.0002	0.88
Edu	0.0033	1.28	0.0008	0.33
BoardSize	-0.0001	-0.23	0.0002	0.48
IndDirRatio	0.0212	1.37	0.0318	2.05*
DirHoldng	-0.0236	-1.14	-0.0335	-1.59
EPS	0.0041	0.66	0.0023	0.41
DA	0.0290	3.81**	0.0258	3.59**
MB	0.0043	3.72**	0.0037	3.21**
LnAsset	0.0007	0.36	0.0002	0.12
NonSOED	0.0034	1.24	0.0050	1.89
Year Dummies	Included			
Industry Dummies	Included			
Adjusted R	0.0673		0.0626	
F	8.7795		8.1991	
p-value	0.00		0.00	
N	3881		3881	

* 0.05 significance level (one-tailed)
** 0.01 significance level (one-tailed)

THE EFFECTS OF STRATEGY-CONTROL SYSTEM MISFITS ON FIRM PERFORMANCE

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Abstract

The purpose of this study is to investigate the effects of misfit between business strategy and management control systems on performance. We argue that the misfit between business strategy and management control systems has significant negative implications on firm performance. Based on a questionnaire survey of 109 bank executives, we found that the strategy-control systems misfit has a significant negative correlation with performance both using financial and non-financial measures. In addition, we found that the magnitudes of differences in correlations between misfit and performance for critical-control systems are significantly more negative than the correlations between misfit and performance for non-critical control systems.

Key words: Business strategy, management control system, performance, contingency theory, systems approach.

1. Introduction

The purpose of this study is to investigate the effects of misfits between business strategy and management control systems (MCS) on performance. We argue that the misfits between business strategy and MCS have significant negative implications for performance. Specifically, we address the following research question: "Do firms that align their MCS to the specific requirements of their business strategy perform significantly better than those that do not achieve the required match?"

We conceptualize business strategy based on Miles and Snow's (1978) strategic archetypes. We use a multi-item scale approach proposed by Conant, Mokwa & Varadarajan (1990) to classify firms as defender, prospector and analyzer. Furthermore, we adapt the MCS proposed by Selto, Renner and Young (1995) and Van de Ven & Ferry (1980) which include performance evaluation, compensation, communication, conflict resolution, commitment and product and market policies. A fit is defined as the degree to which the control systems adhere to an empirically determined "ideal profile" for a given type of competitive strategy. We measure misfits using a weighted Euclidean distance from the ideal profile along the six MCS variables.

Based on a questionnaire survey of 109 bank executives, we found that the misfit between business strategy and MCS has a significant negative correlation with performance both using financial and non-financial measures. In addition, we found that the correlations between misfit and performance for critical-control systems are significantly more negative than the correlations between misfit and performance for non-critical control systems.

This study contributes to the existing literature investigating the impact of strategy and MCS on performance in four ways. First, we provide a clear operationalization of the strategy-MCS misfit by measuring a construct as a weighted Euclidean distance of a firm from the empirically determined ideal profile using the standardized beta generated by OLS regressions. Second, we demonstrate that the magnitudes of differences in correlations between misfits and performance for crucial control variables are significantly more negative than the correlations between misfits and performance for non crucial control variables. As such, our study might help firms improve their performance by focusing on factors that are crucial for them to thrive and succeed. Third, we use a broader set of management control systems than prior studies that typically focus only on performance evaluation and compensation. Fourth, we investigate a broader set of performance measures than previous studies that mostly use financial measures.

The remainder of the paper is organized as follows. Section two discusses previous related literature to develop the hypotheses. Section three explains the sample selection, research design and how to measure the variables used in this study. Section four presents the results of the statistical analyses. Section five provides the general discussions of the main results, the limitations of this study and the direction for future research in this area.

2. Related Literature and Hypotheses

There has been a considerable interest in the study of the relationship between strategy, MCS and performance. Previous research in this area can be categorized into three main streams. First, studies that investigate the impact of strategy on MCS (Quanttrone & Hopper, 2005; Langfield-Smith, 1997; Abernethy &Lillis, 1995; Abernethy & Guthrie, 1994; Dent, 1990; Simons 1987). This stream of research considers MCSs as strategy implementation systems. The basic argument is that MCS should be designed to support a firm's chosen strategy to gain competitive advantage and superior performance. Quattrone & Hopper (2005), for example, proposed that different strategies will lead to different configurations, implementations, and usage of management control systems. Other authors suggest that prospector and defender strategies require quite different design and use of MCA (e.g., Abernethy & Lillis, 1995; Abernethy & Guthrie, 1994; Langfield-Smith, 1997, Simons, 1987). Miles and Snow (1978), for example, found that a particular configuration of task technology, structure, and process is adopted by firms to match their strategy. In their study, they found that firms that adopt a defender strategy tend to adopt a functional structure with high formalization to support their capability to operate efficiently. In contrast, firms that adopt a prospector strategy tend to adopt low formalization to support their ability to create new product and exploit market opportunities. For firms that adopt an analyzer strategy, they tend to adopt a functional structure characterized by fluid product-market group to balance the pressure for innovation and efficiency.

A second stream of research examines the influence of MCS on strategy (Chenhall & Euske, 2007; Chenhall, 2005; Bisbe & Otley, 2004; Marginson, 2002; Dent, 1991). This stream of research considers MCS as systems that are used by management to formulate a firm's strategy. Chenhall and Euske (2007), for example, investigated the role of activity based cost management (ABCM) in a strategic change process. Based on their study in an Australian and a US military organization, they found that information generated from the ABCM systems is used by the organizations

to influence the planned organizational change. Naranjo-Gil and Hartmann (2007) conducted a survey of 103 Spanish public hospitals. They found that top management team use management accounting systems for strategic change. Based on a longitudinal study of a public sector entity spanning five years, Kober, Ng and Paul (2007) found that management control systems help to facilitate a change in strategy for their sample organizations. In a similar vein, Dent (1991) found that railway organizations used MCS to change their strategic orientation from a government dependent to a business oriented strategy.

A third stream of research investigates the impact of aligning strategy and MCS on performance (e.g., Sandino, 2007; Ittner, Larcker, & Randall, 2003; Simons, 1987). This perspective is based on the premise that strategy-MCS fit is achieved when the characteristics of a business strategy and control systems are joined together in a particular configuration to achieve completeness in a description of a social system (Van de Ven, 1979). As such, the performance effects of misfits should reflect the simultaneous and holistic pattern of inter-linkages between strategy and control systems (Venkatraman and Prescott, 1990).

Despite its intuitive appeal, previous studies investigating the effects of strategy-MCS misfits have reported weak and often contradictory results (e.g, Ittner, Larker & Randall, 2003; Sandino, 2007; Simons, 1987). Several authors have suggested that the link between strategy, MCS and performance is not fully understood (Chapman, 2005; Skaerbaek & Tryggestad, 2009).

Ittner, Larcker & Randall, (2003) investigated whether firm performance is positively associated with the extent to which management control systems are aligned with the firm's strategy. Based on a survey of US financial services firms, they found little support that deviation from the "ideal" profile negatively affect performance.

Sandino (2007) used a sample of US retailer to investigate the impact of strategy-MCS fit on performance. She employed four types of MCS: basic MCS (focus

503

on planning, setting standards and establishing the basic operations), cost MCS (emphasize on enhancing operating efficiencies and minimizing costs), revenue MCS (use to foster growth and customer responsiveness), and risk MCS (focus on reducing risks and protecting assets integrity). She reported that firms that match their MCS with their intended strategy outperform those that reveal a strategy-MCS mismatch.

Based on a sample of 76 firms, Simons (1987) reported that the use of tight budget goals and forecast data in control reports was positively related to performance for prospectors but not for defenders. However, the establishment of goals related to outputs and close monitoring of results were positively related to performance for prospectors but negatively related to performance for defenders. He concluded that intensive use of financial control systems is more effective for prospectors than defenders.

Some researchers have argued that the conceptual notion of strategy-MCS misfits is only understood implicitly rather than in explicit functional forms (e.g., Venkatraman & Prescott, 1990; Scherer, 1980). Venkatraman and Prescott (1990) argued that previous research has used phrases like "matched with", "contingent upon" or "congruent with" without necessarily providing precise guidelines for translating such phrases into the operational domain of empirical research and statistical tests. As such, there is a lack of general consensus regarding the conceptualization of misfits and its related empirical tests.

We conceptualize strategy based on Miles and Snow's (1978) generic strategy taxonomy which provides the richest portrayal of organizational arrangements associated with particular strategies (Dent, 1990). This typology is unique because it views the organization as a complete and integrated system in dynamic interaction with its environment (McDaniel and Kolari, 1987). Miles and Snow (1978) argued that prospector, defender, and analyzer are all viable strategies. The key dimension underlying this typology is the organization's response to changing environmental

conditions. According to Miles and Snow, defenders have narrow product-market domains and tend not to search outside their domains for new opportunities. Prospectors continually reach for market opportunities and tend to be creators of change in the industry. Analyzers are a mixture of both, operating in perhaps one relatively stable and one changing product-market domain.

MCS are conceptualized based on Van de Ven and Ferry's (1980) and Drazin and Van de Ven's (1985) notion of organizational process or control. We focus on control systems that have been used in the accounting literature namely performance evaluation, compensation, communication, conflict resolution, commitment, and product and market policy (e.g., Selto, Renner and Young, 1995; Gresov, 1989).

This study uses the holistic perspective[64] to determine the misfits between business strategy and MCS (e.g., Van de Ven, 1979; Selto, Renner & Young, 1995) and investigates the performance implications of the misfits. Ittner & Larker (2001) proposed that one key element in studying strategy and MCS is to identify the specific factors that do in fact lead to value creation. One way to identify the factors that contribute to value creation in the strategy-MCS study is to investigate the specific control systems that contribute positively to performance given a specific type of strategy. Following Venkatraman and Prescott (1990), we obtain a profile of control systems dimension for a set of high performing firms adopting a specific strategy. Any deviations from this profile will have negative performance implications.

The ideal profile can be derived either theoretically or empirically (Van de Ven and Drazin, 1985). The test for performance implication of the misfit between strategy and control system is provided by correlating the misfit with performance. A negative and significant negative correlation between misfit and performance will support the proposition that misfits negatively affect performance.

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[64] Most early studies used selections and interactions method to define misfits. These two approaches, however, have been criticized for their inability to measure the alignment of the whole systems (e.g., Selto, Renner & Young, 1995; Van de Ven and Drazin, 1985).

Following a contingency theory, we hypothesize that firms that reveal a fit between strategy and MCS is more effective than those that do not achieve such fit (Lawrence & Lorsch, 1969). The more a firm deviates from the ideal profile, the lower will be its performance (Drazin and Van de Ven, 1985) since fit between strategy and control systems will reinforce competitiveness leading to superior performance (McDaniel and Kolari, 1987). However, the misfit between strategy and control systems will affect performance negatively only if the firm deviates from the ideal in terms of the critical control systems. Specifically, the following hypotheses will be tested:

H1a: A misfit between business strategy and the critical control systems will have a negative and significant impact on financial performance.

H1a: A misfit between business strategy and the critical control systems will have a negative and significant impact on non financial performance.

Venkatraman and Prescott, (1990) proposed that while the negative and significant correlation between misfits and performance support the notion that aligning MCS with strategy positively affects performance, it only serves as a necessary but not sufficient condition to argue convincingly for the strong relationship between misfits and performance. This is because the power of the test is unknown. To address this concern, Venkatraman and Prescott (1990) suggest developing a baseline profile using variables that were not significantly related to performance in each type of strategy. The baseline profile reflects a model where firms use control systems that are not critical in affecting the firms' performance. We expect that the relationship between the misfits in the baseline profile will not be significantly different from zero. Specifically, the following hypotheses will be tested:

H2a: A misfit between business strategy and the non critical control systems will not have a significant impact on financial performance

H2a: A misfit between business strategy and the non critical control systems will not have a significant impact on non financial performance

506

We also expect that the magnitude of the correlation between misfits and performance for critical MCS will be significantly more negative than the magnitude of the correlation between misfits and performance for non critical MCS. Specifically, the following hypotheses will be tested:

H3a: The correlations between misfits and financial performance for critical MCS are significantly more negative than the correlations between misfits and financial performance for non-critical MCS.

H3a: The correlations between misfits and non-financial performance for critical MCS are significantly more negative than the correlations between misfits and non-financial performance for non-critical MCS.

3. Research Method

3.1. Sample selection

To test the hypotheses developed in the previous section, a single industry was selected to minimize the environmental heterogeneity (Moers and Yuen, 2001). Data were collected from bank executives (directors and divisional managers) through a mail survey.[65] We contacted the senior management of all commercial banks in Indonesia that have retail banking operations asking their willingness to participate in our study. After obtaining approval from the senior management, we ask them to nominate a director in their unit who is responsible for its retail banking operations. We need to have respondents who are the policy makers since the questioners are related to the firm's strategic policies. The initial contact resulted in 150 respondents interested in this study. We sent the following materials to each respondent: a letter explaining the purpose of the study, the questionnaire, and a self addressed, stamped return envelope. To ensure that the materials reach the intended respondent, we sent the

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[65] A pilot study was conducted before the survey was sent to the respondents. We used five bank officers to review the questionnaires. The main purpose of this pilot study is to investigate the degree of understanding and clarity of the questionnaire. As a result, some minor modifications were made to the questionnaire.

materials through a well-established courier company. We received 125 questionnaires

representing 88.3 % response rate. Sixteen respondents were excluded from further

analyses because the respondents do not have a retail banking operations[66] (eleven

responses) and do not answer all the required questions (five responses). Our final

sample consists of 109 banks.

3.2. Constructs and their measures

Strategy

Business strategy defines how a firm chooses to compete in its industry and

tries to achieve a competitive advantage relative to its competitors (Merchant and Van

der Stede, 2007). Andrews (1980) argued that a clearly defined business strategy

helps a firm allocates its resources to convert distinct competences into competitive

advantage. Miles and Snow (1978) proposed three successful organizational

strategies: defenders, prospectors, and analyzers.[67] Defenders focus on their niche

market and emphasize on high product quality and services (James & Hatten, 1995).

Defenders tend to have a narrow product lines and are less involved in product or

market development (Langfield-Smith, 1997). The critical success factors for defenders

are stable product and services, high product quality and services on existing products

and low prices (Miles and Snow, 1978). Prospectors strive to take advantage of market

opportunities by producing new products and services and are rewarded by their ability

to charge premium prices for their innovative products and services. The critical

success factors for prospectors are innovative products and services, broad range of

products and services and quick response to changing business environment.

Analyzers are characterized by their ability to take advantage of the strengths of both

the defenders and the prospectors. The key success factors for analyzers are ability to

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[66] These respondents work either work for foreign banks or joint-venture that are not allowed to
have retail businesses.
[67] The forth type of strategy is reactor. However, since reactor is considered an unsuccessful
type of strategy (see for example Shortell and Zajac, 1990; Langfield-Smith, 1997), it is not
discussed and used in this paper.

adopt innovation, in-depth analyses for innovative products and services before adopting them, adoption of innovative products with lower prices achieved through efficiency and close monitoring of competitors' activities.

We use a multi-item scale approach to measure business strategy (see section A1 of Appendix 1). This approach has been used successfully to measure types of business strategy in previous studies (e.g., Segev, 1987; Conant Mokwa & Varadajan, 1990). Some authors (e.g., Segev 1987; McDaniel & Kolari, 1987; McKee, Vanarajan & Pride, 1989) argued that the multi-item approach is superior to self-typing method since the multi-item approach has detail questions that tend to lead the respondents to choose a particular type of strategy that is closely represent their firms' actual strategy. This approach has been acknowledged as an appropriate method when conducting strategy research (Snow & Hambrick, 1980; Huber & Power, 1985) and has been frequently used in previous studies (Snow & Hrebiniak, 1980; Smith, Guthrie & Chen, 1986; Segev 1987; McDaniel & Kolari, 1987).

The questionnaire contained a list of firms' characteristics and the respondents were asked to indicate the characteristics that best described their firm on a scale of 1 (the characteristic does not suit my firm at all) to 6 (the characteristic suits my firm to a very high degree). The respondent were informed that there is no "good" or "bad" characteristic and they were asked to indicate their actual situation. The characteristics represent Miles and Snow's (1978) strategic typology of defender, prospector, and analyzer. The terms "defender", "prospector", and "analyzer", however, were not used on the questionnaire. Rather, each description was replaced by the terms "Type 1", "Type 2" and "Type 3".

There are eighteen items used to measure strategy. The first six items in the questionnaires refers to the key success factors of defenders. Items seven to thirteen represent the key success factors of prospectors. The last five items in the questionnaire indicate the key success factors of analyzers. Following the approach

introduced by Conant, Mokwa, & Varadarajan (1987), we use the "majority-rule" decision structure to categorize firms into their strategic archetypes. Firms are classified as defenders, prospectors, or analyzers based on the highest average score of the three types of strategies. Based on this procedure, 64 respondents are classified as defender, 28 respondents are classified as prospectors and 17 respondents are classified as analyzers.　　*.Management control systems (MCS)*

MCS are put in place to ensure that employees only engage in value maximizing activities. MCS ensure that employees understand and consistently work hard to accomplish what are expected of them, they implement the firm's intended strategy, and they are capable of performing their jobs (Merchant and Van der Stede, 2007). MCS includes both formal and informal systems. Formal control systems include rules, standard operating procedures, manuals, and budgeting systems. Informal control systems are not deliberately designed but are important to achieve superior performance. Informal control systems include work ethics, management style, and organizational culture. Both formal and informal control systems influence employees' behavior and consequently affect the degree to which goal congruence can be achieved.

We adapt the MCS constructs used in previous studies (e.g., Selto, Renner & Young, 1995; Van de Ven and Ferry, 1980; Gresov, 1989; Drazin & Van de Ven, 1985). There are six variables used for the MCS: performance evaluation, compensation, communication, conflict resolution, commitment, and product and market policy. Table 1 provides the definition of these variables. We use a multi-item scale approach to measure the control system construct (see section A2 of Appendix 1). Respondents were asked to indicate whether they use a particular MCS and to rate the degree of importance attached to each system used on a 6-point Likert-type scale (1 = negligence; and 6 = significantly very important).

[Insert Table 1 here]

Performance

We investigate the performance implication of strategy-control system misfits using both financial and non-financial measures that are critical for banks to thrive and success. The financial measures consist of four variables: return on assets (ROA), return on equity (ROE), non-performing loan (NPL) and net interest margin (NIM). The non-financial measures consist of two variables: customer satisfaction and employee satisfaction. ROA is the ratio of profit to total assets. ROE is the ratio of profit to total equity. NPL is the ratio of non-performing loan to total credit. NIM is the difference between interest revenues and interest expenses. Customer satisfaction is measured based on the length of time a customer stays with the bank. Employee satisfaction is measured based on the average length of time that employees work for the bank. The abbreviated version of the questionnaires on how we measure the firm performance is shown in section A3 of appendix 1. Respondents were asked to indicate their banks' performance relative to their leading competitors. Responses were given on a 6-point Likert-type scale (1 = significantly below average; and 6 = significantly above average).

Strategy-MCS misfit

The strategy-structure misfit is measured based on the degree of departure of the observed configurations from the "ideal" configurations for a given type of strategy. Van de Ven and Drazin (1985) proposed that there are two steps to measure a misfit using a system approach. First, an ideal profile is generated from high performing organizations. Second, the sampled organizations' configurations are compared to the "ideal" profile using the Euclidean distance measures.

Following Venkatraman and Prescot (1990), we measure a misfit based on the weighted Euclidean distance of an organization from the ideal profile for a specific type of strategy. Specifically, the misfit is measured using the following formula:

$$\text{MISFIT} = \sum_{j=1} (b_j(X_{sj} - \overline{X}_{cj}))^2 \qquad (1)$$

511

Where,

> X_{sj} = the score for the organization in the study sample for the jth variable;
>
> X_{cj} = the mean score for the "ideal" profile along the jth variable;
>
> b_j = standardized beta weight of the OLS regression equation for the jth variable in the specific type of strategy;
>
> j = 1, n where n is the number of control systems variables in the specific type of strategy.

The measure of a misfit is based on the approach first introduced by Van de Ven & Drazin (1985), but has been modified by Venkatraman & Prescott (1990) to consider variables (and their relative weights) that are critically related to performance or those that are not critically related to performance for a given type of strategy.

4. Data Analysis and Result

4.1. Analytical Procedure

There are three stages used to analyze the data and test the hypotheses. In the first stage, we perform separate analyzes for each type of strategy. These analyzes include: 1) run a separate OLS regression for each performance measure (financial and non-financial measures) on the six control systems (i.e., performance evaluation, compensation, communication, conflict resolution, commitment, and product and market policy) to obtain the standardized coefficients for the MCS variables that are significantly related to performance and MCS variables that are not significantly related to performance; 2) rank-order the firms with respect to their financial (non-financial) performance; 3) consider the top 10 percent firms as the "ideal" group and the remaining 90 percent firms as the "sample" group.

In the second stage, we measure the degree of strategy-MCS misfits for both the significant variables (MISFIT_C) and the non-significant variables (MISFIT_NC) for each type of strategy. This procedure is performed separately for financial and non financial performance measures and include: 1) determine the "ideal" control systems

512

for each type of strategy based on the control systems of the high performing firms (i.e.,

top 10 percent); 2) measure the deviation from the "ideal" profile by comparing the

sample firms' MCS to the MCS of the "ideal" profile; 3) calculate the misfit for each firm

by summing the products of the deviation score of each MCS with its corresponding

standardized coefficient as shown in equation (1).

In the third stage, we correlate the misfit and performance for financial and non

financial measures. We run separate analyses for each type of strategy. We then use

z-tests to investigate whether the correlation coefficients between the MISFIT_C and

performance is significantly different from those coefficients between the MISFIT_NC

and performance. The analytical procedures are presented in figure 1.

[Insert Figure 1 here]

4.2. Statistical Analyses and Results

We begin our analyses by assessing the reliability of the constructs used in this

study. The eleven constructs and their inter-item reliability are shown in Table 2. The

results indicate that the reliability of the constructs is within the acceptable range

(Nunnally, 1967) with the minimum of 0.70 and the maximum of 0.94.

[Insert Table 2 here]

To investigate whether the multi-item questionnaires have dimensions that are

consistent with the proposed construct used in this study, we perform a principal

component factor analysis[68]. As shown in Table 3, defender has one factor (66.25 % of

the variance explained), prospector has one factor (63.34 % of the variance explained),

analyzer has one factor (60.05 % of the variance explained), performance evaluation

has one factor (84.36 % of the variance explained), compensation has one factor

(75.97 of the variance explained), communication has one factor (75.69 % of the

variance explained), conflict resolution has one factor (75.69 % of the variance

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[68] To obtain a clear pattern of loadings, we use Varimax with Kaiser Normalization rotation
method. In applying this procedure, factors with Eigenvalues greater than 1.00 were retained.

513

explained), commitment has one factor (67.35 % of the variance explained), product and market policy has one factor (80.64 % of the variance explained), financial performance has one factor (53.12 % of the variance explained), and non financial performance has one factor (86.21 % of the variance explained). The results confirm that the questionnaires used in this study can be categorized into their intended constructs.

[Insert Table 3 here]

Table 4 reveals the Pearson correlations for all variables used in this study. The two performance variables used in this study is highly correlated ($r = 0.792$, $p < 0.001$) indicating that they measure the same construct.

[Insert Table 4 here]

Table 5 presents the descriptive statistics about the variables used in this study for defender, prospector, analyzer and total sample. The mean responses for financial performance measures are: 3.96, 3.93, 3.68, and 3.79 for defender, prospector, analyzer and total sample respectively. The mean responses for non financial measures are: 3.59, 3.55, 2.90, and 3.47 for defender, prospector, analyzer and total sample respectively. In terms of performance evaluation, the mean responses are: 3.30, 5.43, 4.88, and 4.06 for defender, prospector, analyzer, and total sample respectively. The mean responses for compensation are: 3.67, 5.20, 4.47, and 4.16 for defender, prospector, analyzer, and total sample respectively. The mean responses for compensation are: 3.67, 5.20, 4.47, and 4.16 for defender, prospector, analyzer, and total sample respectively. The mean responses for communication are: 4.96, 5.28, 5.01, and 5.05 for defender, prospector, analyzer, and total sample respectively. The mean responses for conflict resolution are: 3.39, 5.12, 4.02, and 3.91 for defender, prospector, analyzer, and total sample respectively. The mean responses for commitment are: 4.97, 3.30, 3.69, and 3.76 for defender, prospector, analyzer, and

total sample respectively. The mean responses for product and market policy are: 4.31, 4.34, 4.44, and 4.35 for defender, prospector, analyzer, and total sample respectively.

Table 5 also presents the descriptive statistics of the misfit constructs using both financial and non-financial performance measures for the crucial control systems (MISFIT_C) and non-crucial control systems (MISFIT_NC). The means of MISFIT_C for financial measures are: 1.79, 4.27, 2.22, and 2.19 for defender, prospector, analyzer and total sample respectively. The means of MISFIT_NC for financial measures are: 0.01, 0.03, 0.21, and 0.03 for defender, prospector, analyzer and total sample respectively. The means of MISFIT_C for non financial measures are: 1.13, 4.52, 2.26, and 2.04 for defender, prospector, analyzer and total sample respectively. The means of MISFIT_NC for non financial measures are: 0.01, 0.05, 0.27, and 0.04 for defender, prospector, analyzer and total sample respectively.

[Insert Table 5 here]

Table 6 present the results of the OLS regression analyses for financial performance measure as the dependent variable for each type of strategy[69]. The results indicate that performance evaluation (β = 0.440, p < 0.01), compensation (β = 0.191, p < 0.05), conflict resolution (β = 0.242, p < 0.05), and commitment (β = 0.176, p < 0.01), are significantly related to performance for defenders. For prospectors, compensation (β = -0.246, p < 0.10), commitment (β = 0.583, p < 0.01), and product and market policy (β = 0.488, p < 0.01), are significantly related to performance. For analyzers, only commitment (β = 0.777, p < 0.05) is significantly related to performance.

[Insert Table 6 here]

Table 7 present the results of the OLS regression analyses for non financial performance measure as the dependent variable for each type of strategy[70]. The results indicate that performance evaluation (β = 0.305, p < 0.05), compensation (β =

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[69] For the sake of completeness, we also include the OLS regression for the total sample.
[70] For the sake of completeness, we also include the OLS regression for the total sample.

0.226, p < 0.10), conflict resolution (β = 0.241, p < 0.10), and commitment (β = 0.202, p < 0.05), are significantly related to performance for defenders. For prospectors and analyzers, only commitment (β = 0.750, p < 0.01; and β = 0.688, p < 0.10, respectively) is significantly related to performance.

[Insert Table 7 here]

Table 8 summarizes the results of the correlation analyses between MISFIT_C and performance and also between MISFIT_NC and performance for financial performance. It also reports the results of the test for the difference in the magnitude of the correlation coefficients[71].

Hypothesis H1a predicts that a misfit between business strategy and the critical control systems will have a negative and significant impact on financial performance. The results indicate that the misfits of strategy and the crucial control variables (MISFIT_C) have negative and significant correlations with financial performance for all types of strategy (r = -0.916, p < 0.01 for defenders; r = -0.958, p < 0.01 for prospectors; and r = -0.689, p < 0.01 for analyzer). The results are consistent with hypothesis H1a.

Hypothesis H2a posits that a misfit between business strategy and the non critical control systems will not have a significant effect on financial performance. The results reveal that the correlations between MISFIT_NC and financial performance are not significant for all types of strategy. The results confirm hypothesis H2a.

Hypothesis H3a expects that the correlation between MISFIT_C and financial performance will be significantly more negative than the correlation between

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[71] We use the procedure proposed by Chen and Popovich (2002) to test the difference in magnitude of the correlation coefficients. The following formula is used to perform this test:

$z = \dfrac{z_{rs} - z_{rns}}{\sqrt{1/(n_s - 3) + (n_{ns} - 3)}}$ where z_{rs} and z_{rs} are the z –values of the correlation coefficients for the MISFIT_C and MISFIT_NC, respectively obtained from the following formula:

$z_r = 0.5 X \log_e \dfrac{(1+r)}{(1-r)}$.

MISFIT_NC and financial performance. The results show that the correlations between MISFIT_C and financial performance are significantly more negative than the correlation between MISFIT_NC and financial performance for all types of strategies (z = 8.495, p < 0.01 for defenders; z = 5.321, p < 0.01 for prospectors; and z = 1.984, p < 0.05 for analyzers). The results support hypothesis H3a.

[Insert Table 8 here]

Table 9 reveals the results of the correlation analyses between MISFIT_C and non financial performance and also between MISFIT_NC and non financial performance. It also reports the results of the test for the difference in the magnitude of the correlation coefficients[72].

Hypothesis H1b predicts that a misfit between business strategy and the critical control systems will have a negative and significant impact on non financial performance. The results indicate that the misfits of strategy and the crucial control variables (MISFIT_C) have negative and significant correlations with non financial performance for all types of strategy (r = -0.826, p < 0.01 for defenders; r = -0.711, p < 0.01 for prospectors; and r = -0.528, p < 0.01 for analyzer). The results are consistent with hypothesis H1a.

Hypothesis H2b posits that a misfit between business strategy and the non critical control systems will not have a significant effect on non financial performance. The results reveal that the correlations between MISFIT_NC and non financial performance are not significant, except for prospectors where the correlation is negative and significant (r = -0.209, p < 0.05). The results provide some support to hypothesis H2a.

Hypothesis H3b expects that the correlation between MISFIT_C and non financial performance will be significantly more negative than the correlation between

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[72] We use the same procedure to test the difference in magnitude of the correlation coefficients as discussed earlier for financial performance.

MISFIT_NC and non financial performance. The results show that the correlations between MISFIT_C and non financial performance are significantly more negative than the correlation between MISFIT_NC and non financial performance for defenders and prospectors ($z = 5.927$, $p < 0.01$ and $z = 2.194$, $p < 0.05$ respectively). For analyzers, however, the correlation difference is not statistically significant. The results provide some support to hypothesis H3b.

[Insert Table 9 here]

5. Discussions, Limitations, and Implications for Future Research

The notion of strategy-control system misfits is a central theme in management accounting research utilizing a contingency approach and the performance implications of strategy-control system misfits are intuitively appealing. However, little research has been conducted to support this proposition. In particular, no studies have considered using relative weights of different control systems. This is important since the notion of equal weight is generally considered untenable.

In this study, we derive the weights by performing OLS regressions and use the standardized beta weights of the regression equation of control system variables on performance for each type of strategy. The results indicate that the strategy-control system misfit for crucial control system variables has a significant negative effect on performance. By contrast, the strategy-control system misfits for non-crucial control system variables do not affect performance negatively (except for the marginally significant effect on performance for prospectors when non-financial measures of performance are used as the dependent variable). More importantly, the magnitude of the correlations between misfits and financial performance for the crucial control variables are significantly more negative than the correlations between misfit and performance for the non-crucial control variables for all types of strategies. Furthermore, the correlations between misfit and non-financial performance for crucial control variables are more negative than those for non crucial control variables. The magnitude

518

of the differences of the two correlations, however, is only statistically significant for the defender strategy.

It is interesting to note that not all of the correlations between misfits and performance for the non-crucial control systems are close to zero. As shown in Table 9, the correlation between misfit and non-financial performance for the non-crucial control variables is negative and marginally significant for prospectors. This unexpected result has two implications. First, deviation from the ideal profile in terms of non-crucial control system could have a negative and significant impact on performance. Second, there is the need to compare between the magnitude of correlations between misfits and performance for the critical and non-critical control systems to provide evidence that the misfits in terms of crucial control variables are more damaging than the misfits in terms of non-crucial control variables. As such, our study might help firms improving their performance by focusing the deployment of their limited resources on control systems that are crucial for the companies to thrive and succeed, given their chosen strategy.

The results of this study should be interpreted in light of three limitations. First, the misfit construct was derived empirically by comparing the control systems used by high performing firms and those of the sample firms. It might be that the high performing firms use control systems that are not consistent with the theoretical prescriptions of the strategy-control system fit. However, the theoretically derived "ideal profile" is still debatable and the operational task of specifying such profile with numerical scores along a set of MCS is a difficult task (Venkatraman & Prescott, 1990). We leave this for future research.

Second, we use data from banking industry which is known for its highly regulated and tight government control. Future studies might use data from different industry to enhance the generalizability of our results.

519

Finally, the data used in this study are collected using a questionnaire survey. While this approach enables us to explore the richness of the reality by soliciting inputs directly from the executives responsible for designing and implementing the firms' strategy and control systems, socially responsible bias due to subjective responses to the questionnaires should be taken into considerations when making inferences about the results of this study.

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Table 1
Definitions of management control system constructs

Constructs	Definition
Performance evaluation	Employees' performance evaluation systems that encourage employee development and motivation
Compensation	The degree to which employees' compensation are contingent on performance
Communication	The ability of top management to communicate the firm's vision, mission and objectives to the stakeholders honestly, openly, and systematically
Conflict resolution	The ability of top management to anticipate and solve conflicts between units/elements in the firm
Commitment	The degree of top management' commitment and their ability to gain commitment from the whole employees to realize the firm's vision, mission and objectives
Product and market policy	The ability of a firm to provide products and services to satisfy customers' demand

Table 2
Inter-item construct reliability

Constructs	Cronbach Alpha
Defender	0.77
Prospector	0.90
Analyzer	0.83
Financial performance	0.70
Non-financial performance	0.84
Performance evaluation	0.81
Compensation	0.83
Communication	0.92
Conflict resolution	0.92
Commitment	0.77
Product and market policy	0.94

Financial consists of four financial performance measures: return on asset, return of equity, net interest margin and non-performing loan. Non financial consists of two non-financial measures: customer satisfaction and employee satisfaction. Performance evaluation is the employees' performance evaluation systems that encourage employee development and motivation. Compensation is the degree to which employees' compensation is contingent on performance. Communication is the ability of managers to communicate the firm's vision, mission and objectives to the stakeholders honestly, openly, and systematically. Conflict resolution is the ability of management to anticipate and solve conflicts between units/elements in the firm. Commitment is the degree of top management commitment and their ability to gain commitment from the whole employees to realize the firm's vision, mission and objectives. Product and market policy is the ability of a firm to provide products and services to satisfy customers' demand

Table 3
Results of factor analyses on strategy, control systems and performance

Factor	Eigenvalue	Percent of variance explained
Defenders	3.98	66.25
Prospectors	4.43	63.35
Analyzers	3.00	60.05
Performance evaluation	1.69	84.36
Compensation	2.28	75.97
Communication	3.79	75.69
Conflict resolution	3.78	75.69
Commitment	3.37	67.35
Product and market policy	4.03	80.64
Financial performance	2.13	53.12
Non-financial performance	1.72	86.21

Financial consists of four financial performance measures: return on asset, return of equity, net interest margin and non-performing loan. Non financial consists of two non-financial measures: customer satisfaction and employee satisfaction. Performance evaluation is the employees' performance evaluation systems that encourage employee development and motivation. Compensation is the degree to which employees' compensation is contingent on performance. Communication is the ability of managers to communicate the firm's vision, mission and objectives to the stakeholders honestly, openly, and systematically. Conflict resolution is the ability of management to anticipate and solve conflicts between units/elements in the firm. Commitment is the degree of top management commitment and their ability to gain commitment from the whole employees to realize the firm's vision, mission and objectives. Product and market policy is the ability of a firm to provide products and services to satisfy customers' demand

Table 4: Pearson Correlations among Variables (n=114) (P-values in Parenthesis)

Variable	Financial	Non-financial	Performance evaluation	Compensation	Communication	Conflict resolution	Commitment	Product and market policy
Financial	1							
Non-financial	0.792 (0.000)	1						
Performance evaluation	0.570 (0.000)	0.452 (0.000)	1					
Compensation	0.520 (0.000)	(0.427 (0.000)	0.829 (0.000)	1				
Communication	0.032 (0.732)	0.103 (0.278)	0.139 (0.140)	0.228 (0.015)	1			
Conflict resolution	0.643 (0.000)	0.536 (.000)	0.821 (0.000)	0.734 (0.000)	0.140 (0.138)	1		
Commitment	0.670 (0.000)	0.578 (0.000)	0.136 (0.149)	0.130 (0.168)	-0.024 (0.796)	0.274 (0.003)	1	
Product and market policy	0.265 (0.004)	0.201 (0.032)	0.093 (0.324)	0.042 (0.657)	0.468 (0.000)	0.112 (0.236)	-0.830 (0.000)	1

Financial consists of four financial performance measures: return on asset, return of equity, net interest margin and non-performing loan. Non financial consists of two non-financial measures: customer satisfaction and employee satisfaction. Performance evaluation is the employees' performance evaluation systems that encourage employee development and motivation. Compensation is the degree to which employees' compensation is contingent on performance. Communication is the ability of managers to communicate the firm's vision, mission and objectives to the stakeholders honestly, openly, and systematically. Conflict resolution is the ability of management to anticipate and solve conflicts between units/elements in the firm. Commitment is the degree of top management commitment and their ability to gain commitment from the whole employees to realize the firm's vision, mission and objectives. Product and market policy is the ability of a firm to provide products and services to satisfy customers' demand.

Table 5:
Descriptive Statistics

Variable	Defender (n=58)		Prospector (n=25)		Analyzer (n=15)		Total Sample (n=98)	
	Mean	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**
Financial	3.96	1.31	3.93	1.27	3.68	1.07	3.79	1.26
Non-financial	3.59	1.71	3.55	1.49	2.90	1.66	3.47	1.65
Performance evaluation	3.30	1.63	5.43	0.59	4.88	0.67	4.06	1.63
Compensation	3.67	1.29	5.20	0.71	4.47	0.66	4.16	1.27
Communication	4.96	0.86	5.28	0.75	5.01	0.67	5.05	0.81
Conflict resolution	3.39	1.65	5.12	0.67	4.02	1.03	3.91	1.56
Commitment	4.97	1.29	3.30	1.70	3.69	1.44	3.76	1.43
Product and market policy	4.31	1.11	4.34	1.42	4.44	0.57	4.35	1.13
Misfit-fin_C	1.79	1.82	4.27	4.45	2.25	3.14	2.19	4.01
Misfit-fin_NC	0.01	0.02	0.03	0.06	0.21	0.19	0.03	1.47
Misfit-nonfin_C	1.13	1.16	4.52	4.71	2.26	2.68	2.04	3.44
Misfit-nonfin_NC	0.01	0.01	0.05	0.04	0.27	0.28	0.04	0.83

Financial consists of four financial performance measures: return on asset, return of equity, net interest margin and non-performing loan. Non financial consists of two non-financial measures: customer satisfaction and employee satisfaction. Performance evaluation is the employees' performance evaluation systems that encourage employee development and motivation. Compensation is the degree to which employees' compensation is contingent on performance. Communication is the ability of managers to communicate the firm's vision, mission and objectives to the stakeholders honestly, openly, and systematically. Conflict resolution is the ability of management to anticipate and solve conflicts between units/elements in the firm. Commitment is the degree of top management commitment and their ability to gain commitment from the whole employees to realize the firm's vision, mission and objectives. Product and market policy is the ability of a firm to provide products and services to satisfy customers' demand.

Table 6:
OLS of management control systems on financial performance in each type of strategy

Management control systems	Defender Coefficient[a] (t-statistic)[b]	Prospector Coefficient (t-statistic)	Analyzer Coefficient (t-statistic)	Total sample Coefficient (t-statistic)
Intercept	- (1.390)	- (2.765)**	- (0.323)	- (0.701)
Performance evaluation	0.440 (3.926)***	0.074 (0.740)	-0.171 (-0.644)	0.183 (1.632)
Compensation	0.191 (2.070)**	-0.246 (-2.008)*	0.182 (0.584)	0.138 (1.439)
Communication	-0.004 (-0.062)	-0.162 (-1.469)	0.160 (0.609)	-0.118 (-1.927)*
Conflict resolution	0.242 (2.339)**	0.126 (1.097)	0.231 (0.980)	0.248 (2.617)**
Commitment	0.176 (2.869)***	0.583 (5.268)***	0.777 (2.853)**	0.522 (9.350)***
Product and market policy	-0.026 (-0.379)	0.488 (4.024)***	-0.139 (-0.602)	0.152 (2.498)**
Adjusted R-squared	0.812	0.890	0.610	0.706
Sample size	58	25	15	98

[a] The coefficients are reported in the standardized form.
[b] *, **, *** denote significance level at 0.10, 0.05, and 0.01 based on two-tailed tests.
The dependent variable is financial performance measure which consists of return on assets, return of equity, net interest margin and non-performing loan.
Performance evaluation is the employees' performance evaluation systems that encourage employee development and motivation. Compensation is the degree to which employees' compensation is contingent on performance. Communication is the ability of managers to communicate the firm's vision, mission and objectives to the stakeholders honestly, openly, and systematically. Conflict resolution is the ability of management to anticipate and solve conflicts between units/elements in the firm. Commitment is the degree of top management commitment and their ability to gain commitment from the whole employees to realize the firm's vision, mission and objectives. Product and market policy is the ability of a firm to provide products and services to satisfy customers' demand.

Table 7:
OLS of management control systems on non-financial performance in each type of strategy

Control variable	Defender Coefficient (t-statistic)	Prospector Coefficient (t-statistic)	Analyzer Coefficient (t-statistic)	Total sample Coefficient (t-statistic)
Intercept	- (-1.909)*	- (1.801)*	- (-0.466)	- (-1.318)
Performance evaluation	0.305 (2.064)**	0.108 (0.510)	-0.204 (-0.586)	0.097 (0.647)
Compensation	0.226 (1.859)*	-0.168 (-0.647)	0.284 (0.692)	0.096 (0.746)
Communication	0.105 (1.210)	0.034 (0.144)	0.312 (1.492)	0.025 (0.300)
Conflict resolution	0.241 (1.765)*	-0.224 (-0.915)	0.201 (0.651)	0.247 (1.952)*
Commitment	0.202 (2.482)**	0.750 (3.187)***	0.688 (1.928)*	0.476 (6.377)***
Product and market policy	0.015 (0.166)	0.057 (0.220)	-0.533 (-1.757)*	0.042 (0.515)
Adjusted R-squared	0.672	0.548	0.336	0.475
Sample size	58	25	15	98

[a] The coefficients are reported in the standardized form.

[b] *, **, *** denote significance level at 0.10, 0.05, and 0.01 based on two-tailed tests. The dependent variable is non financial performance measure which consists of customer satisfaction and employee satisfaction. Performance evaluation is the employees' performance evaluation systems that encourage employee development and motivation. Compensation is the degree to which employees' compensation is contingent on performance. Communication is the ability of managers to communicate the firm's vision, mission and objectives to the stakeholders honestly, openly, and systematically. Conflict resolution is the ability of management to anticipate and solve conflicts between units/elements in the firm. Commitment is the degree of top management commitment and their ability to gain commitment from the whole employees to realize the firm's vision, mission and objectives. Product and market policy is the ability of a firm to provide products and services to satisfy customers' demand.

Table 8:
Correlations between misfit and financial performance in each specific strategy: Misalign vs. Baseline

Type of strategy	Sample[c]	Misalign - financial performance (A) Coeeficient[a,b]	Baseline – financial performance (B) Coeeficient (t-statistic)	z-test between (A) and (B)[d] Coeeficient (z-statistic)
Defender	58	-0.916***	-0.036	8.495***
Prospector	25	-0.958***	-0.272	5.321***
Analyzer	15	-0.689***	-0.105	1.984**

[a] Pearson's correlation coefficients..
[b] *, **, *** denote significance level at 0.10, 0.05, and 0.01 based on two-tailed tests.
[c] The sample size reflects the total sample in a specific type of strategy minus 10% for generating the "ideal" portfolio.
[d] Differences in the correlation coefficients is tested based on a z-test proposed by Chen and Popovich (2002)..

Table 9:
Correlations between misfit and non-financial performance in each specific strategy: Misalign vs. Baseline

Type of strategy	Sample[c]	Misalign – nonfinancial performance (A) Coeeficient[a,b]	Baseline – nonfinancial performance (B) Coeeficient (t-statistic)	z-test between (A) and (B)[d] Coeeficient (t-statistic)
Defender	58	-0.826***	-0.084	5.927***
Prospector	25	-0.711***	-0.209*	2.194**
Analyzer	15	-0.528**	-0.113	1.111

[a] Pearson's correlation coefficients..
[b] *, **, *** denote significance level at 0.10, 0.05, and 0.01 based on two-tailed tests.
[c] The sample size reflects the total sample in a specific type of strategy minus 10% for generating the "ideal" portfolio.
[d] Differences in the correlation coefficients is tested based on a z-test proposed by Chen and Popovich (2002)..

Figure 1:
The analytical procedure*

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┌─────────────────────────────────────────────────────────────────────┐
│                 Consider Type of Business Strategy                    │
└─────────────────────────────────────────────────────────────────────┘
         │                          │                          │
         ▼                          ▼                          ▼
┌──────────────────┐    ┌──────────────────┐    ┌──────────────────┐
│  Estimate OLS    │    │                  │    │  Develop a       │
│  regression of   │    │  Develop a       │    │  profile based   │
│  performance on  │    │  profile based   │    │  on the non-     │
│  management      │    │  on the          │    │  significant     │
│  control systems │    │  significant     │    │  control system  │
│  to identify the │    │  control system  │    │  variables and   │
│  significant and │    │  variables and   │    │  determine the   │
│  non significant │    │  determine the   │    │  "ideal" profile │
│  variables       │    │  "ideal" profile │    │                  │
└──────────────────┘    └──────────────────┘    └──────────────────┘
         │                                                 │
         ▼                                                 ▼
┌──────────────────┐                        ┌──────────────────┐
│ Calculate the    │                        │ Calculate the    │
│ score of the     │                        │ score of the     │
│ MISFIT_C         │                        │ MISFIT_NC        │
│ measure in the   │                        │ measure in the   │
│ sample study     │                        │ study sample     │
└──────────────────┘                        └──────────────────┘
         │                                                 │
         ▼                                                 ▼
┌──────────────────┐                        ┌──────────────────┐
│ Correlate        │                        │ Correlate        │
│ MISFIT_C with    │                        │ MISFIT_NC with   │
│ performance on   │                        │ performance on   │
│ the study sample │                        │ the study sample │
│ and test for     │                        │ and test for     │
│ significance     │                        │ significance     │
└──────────────────┘                        └──────────────────┘
         │                                                 │
         └────────────────────┬────────────────────────────┘
                              ▼
              ┌─────────────────────────────────┐
              │ Test the significance of the    │
              │ difference in correlations      │
              └─────────────────────────────────┘
                              │
                              ▼
              ┌─────────────────────────────────┐
              │ Repeat for other type of strategy│
              └─────────────────────────────────┘
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Appendix 1
Abbreviated research questionnaire

A.1. Strategy

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* The analytical procedure is adapted from Venkrataman and Prescott (1990).

Which of the following descriptions most closely fits your bank compared to other banks in the industry (1 = the characteristic does not suit my bank at all; 6 = the characteristic suits my bank to a very high degree). Please consider your bank as a whole and note that none of the types listed below is inherently "good" or "bad".

Type1:
Q1: This bank tries to locate a safe niche in a relatively stable products domain.
Q2: The bank tends to offer a more limited range of products or services than its competitors.
Q3: The bank tries to protect the environment domain in which it operates by stressing higher quality than its competitors.
Q4: The bank concentrates on trying to achieve the best performance in a relatively narrow product-market domain.
Q5: The bank places less stress on the examination of changes in the industry that are not directly relevant to the bank.
Q6: The bank tries to maintain a limited line of products and tries to maintain a stable line of products.

Type 2:
Q1: This bank leads in innovations in its industry
Q2: The bank operates in a broad product domain.
Q3: The bank product domain is periodically redefined.
Q4: The bank's believes in being "first in" in the industry in development of new products.
Q5: Not all the bank's efforts invested in being "first in" in the industry in development of new products proved to be profitable.
Q6: The bank responds rapidly to early signals of opportunities in the environment
Q7: The bank's actions often lead to a new round of competitive activity in the industry.

Type 3:
Q1: The bank adopts quickly promising innovations in the industry.
Q2: The innovations which are chosen by the bank are carefully examined.
Q3: The bank often reacts to innovations in the industry by offering similar, lower cost products.
Q4: The bank carefully monitors competitors' actions in the industry.
Q5: The bank only seldom leads in developing new products in the industry.

A2: Management control systems

Please indicate your banks' performance relative to its leading competitors (1 = significantly below average; and 6 = significantly above average).

Performance evaluation:
Q1: The bank evaluates its employees based on their target achievements that have been agreed upon.
Q2: The bank evaluates its employees periodically
Compensation:
Q1: The bank uses compensation systems that are linked to performance
Q2: The bank gives its employees incentive compensations besides their salary.
Q3: The bank measures employee satisfaction periodically

Communication:

Q1: The management of this bank communicates with the employees honestly and openly.
Q2: The management of this bank communicates with the employee clearly and confidently.
Q3: The management of this bank communicates their ideas systematically.
Q4: The management of this bank listens and responds to subordinates' ideas and opinion appropriately.
Q5: The management of this bank maintains two-ways communication systems.

Conflict resolution:
Q1: The management of this bank manages internal conflicts positively and constructively.
Q2: The management of this bank always attempts to solve conflicts through a win-win solution.
Q3: The management of this bank always tries to ensure that a conflict will not have a negative impact personally.
Q4: The management of this bank has negotiation skills to solve conflicts
Q5: The management of this bank has the ability to think about the long term relationships in conflict resolutions

Commitment:
Q1: The management of this bank is highly committed to achieve the objective of this bank.
Q2: The management of this bank encourages all elements of the bank to have a high commitment on achieving the bank's objectives
Q3: To increase commitment, the management of this bank is flexible in setting targets and in allocating resources.
Q4: The management of this bank shares ideas and values to gain employees' commitment.
Q5: The management of this bank encourages their employees to translate commitment into accountability

Product and market policy:
Q1: The bank provides products and services demanded by its customers.
Q2: The bank tries to develop new products and services and invests in research and development projects.
Q3: The bank analyzes its pricing of products and services periodically
Q4: The bank invests in customer information systems.
Q5: The bank performs marketing research

A3: Performance

Please indicate your bank's performance relative to its leading competitors (1 = significantly below average; and 6 = significantly above average).

Financial performance:
Q1: ROA (the ratio of profit to total assets)
Q2: ROE (the ratio of profit to total equity)
Q3: NPL (the ratio of non-performing loan to total credit)
Q4: NIM (the difference between interest revenues and interest expenses)

Non-financial performance:
Q1: Customer satisfaction (the length of time a customer stays with the bank)
Q2: Employee satisfaction (the average length of time that employees work for the bank)

2.3 Earnings Management

REPORTING COMPREHENSIVE INCOME AND MANAGERIAL BEHAVIOR IN JAPAN

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Abstract

   For the last several years, the financial performance reporting project has been one of the controversial matters for accounting standard-setters. In this paper we will examine the manipulation of net income by realizing other comprehensive income items with actual other comprehensive income numbers before and after reporting comprehensive income in Japan. We lead the following conclusions.

   Soon after introducing comprehensive income reporting, there is no significant decrease in earnings management to net income by using other comprehensive income. These days, however, we can find some statistically significant evidence for it. Therefore, we can conclude that it took time for FAS130 to function well as an expected standard-setter. In other words, a certain time was necessary for managers to recognize that the extent of transparency for financial reporting was changed by FAS130.

1. Introduction and Summary

   For these several years, the financial performance reporting project has been one of some controversial matters for accounting standard-setters. UK accounting standard-setters (ASB) leased FRS3 in 1992 and required to report all gains and losses in income statement, in the USA FASB proposed FAS130 in 1997 and decided to report comprehensive income in income statement[73]. Internationally, IASB leased IAS1 (revised), G4+1 published their special report in 1999. In 2009 the discussion paper *'Preliminary Views on Financial Statement Presentation'* was published under the name of both IASB and FASB.

   In Japan, the standard-setter has been arguing for financial performance reporting, too. Because many countries already decided to adopt FRS as their domestic accounting standard and a lot of Japanese companies are financing in Europe and other foreign countries.

   The purpose of the reporting financial performance project is to improve the format of the financial statements in order to enhance its transparency for capital providers[74]. But originally, it was to reconstruct the presentation of the income statement for improving its transparency by preventing earnings managements for net income and then to enhance investors' ability for predicting future cash flow. In other words, standard-setters presumed that the reliability of net income was reducing because of increase of earnings management at that time. And some standard-setters tried to mitigate this problem by introducing comprehensive income statement.

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[73] Precisely, FASB introduced comprehensive income statement in FAS130. Comprehensive income is defined as net income + other comprehensive income. Other comprehensive income includes unrealized gains and losses related to exchange translation differences on foreign currency net investment, available-for-sale securities and cash flow hedged derivatives.

[74] IASB and FASB (2008).

Considering this as background, most of the early empirical researches on reporting financial performance were value-relevance style researches and they concluded that the value-relevance of net income was stronger than that of comprehensive income. On the other hand, there are few researches which analyzed the relation between comprehensive income reporting and earnings management for net income. Thinking of it, the open question whether comprehensive income reporting functions as it is expected or not still remains.

2. Review

There are several researches on the relation between earnings management and reporting comprehensive income[75].

These researches provided evidence that comprehensive income is less likely to be affected by earnings management than net income. However, we can say there are still some open questions. The reasons are as follows.

First, most of these researches include comprehensive income and its components that are calculated artificially, not ones that are titled in income statement as they are. There is a possibility that managers behave in the same way if the reporting format of financial statement does not change substantively. Considering this, these research results do not reflect the change of managers' behavior even if it happens. Second, they focused only on net income and comprehensive income, not on the relation between them－other comprehensive income. To consider whether comprehensive income reporting works as standard-setters expected, it is necessary to analyze earnings management for net income－more specifically, the relation between other comprehensive income and net income. Therefore this implies that it is still unclear how managers manage net income by controlling other comprehensive income after introducing comprehensive income reporting. The original purpose of the reporting financial project is to improve the transparency of reporting financial performance and to prevent earnings management for net income. In this respect, whether the effect of introducing comprehensive income reporting works well or not is still not clear.

3. The Relation between Other Comprehensive Income and Net Income

Generally, there are two types of earnings management. One is changing accounting policies for manipulating earnings. The other is changing business activities or contracts and then managing earnings.

Thinking of the relation between other comprehensive and net income, we will need to consider the latter type. That is, if managers want to increase or decrease their net income, they will turn other comprehensive income items (=unrealized gains) into realized gains and losses by selling available-for-sale securities, subsidiaries abroad or settling cash flow derivatives, etc.

Some of the researches above pointed out that managers have motivation for managing net income by realizing other comprehensive income. However, the previous researches above do not analyze this behavior of managers by using actual other comprehensive income numbers. Therefore, in this paper we will examine the manipulation of net income by realizing other comprehensive income items with actual other comprehensive income numbers before and after introducing reporting comprehensive income reporting.

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[75] Hirst et al.(1998), Hutton et al.(2004), Lee et al.(2004), Satoh and Nakagawa(2006) and Wakabayashi(2006).

4. Samples and Research Hypothesis

(1) Samples

In this research, samples firm years are selected according to criterions as follows.

① Firms in Tokyo stock exchange group 1st section adopting SEC standards.

② The period for the analysis is from 1995 to 2007. Comprehensive income reporting was introduced from 1999 substantially in sample firms.

③ Firm years when total asset, net income, unrealized gains and losses related to sale available security and its reclassification[76] item are available in the annual reports during 1995~2007.

④ Firm years when unrealized gain and losses on exchange translation differences on foreign currency net investment and its reclassification is available in annual reports during 1999-2007.

⑤ Firm years when unrealized gains and losses on cash flow hedge derivatives and its reclassification is available in annual report during 2002-2007.

⑥ Inputting these samples with manual procedure

(2) Research Hypothesis

If managers think the transparency of financial performance is enhanced by comprehensive income reporting, it is presumed that the manipulation of net income by using other comprehensive income decreases after the period when introducing the comprehensive income reporting. Especially, according to FAS130, it was expected that the introduction of reporting comprehensive income would improve the traceability from other comprehensive income to net income (=recycling or reclassification).

Considering these aspects, more specifically, we present the following hypotheses.

H: the magnitude of earnings management for net income by using other comprehensive income items scales down after the period when adopting comprehensive income reporting.

(3) Research Model

We examine the hypothesis by the following two methods.

① **T-test for the average of reclassification items(=realized gains and losses)related to other comprehensive income**

We calculated the percentage of the reclassification of available-for-sale-securities in net income ($Av1_i$), turned the numbers to absolute value and conducted the t-test whether the difference($|Av1_i - Av1_{i-1}|$) of the averages was statistically significant or not after period when comprehensive income reporting was introduced(1999~2007). Additionally for the period of 1999~2007, we also conducted the same test for the reclassification of exchange translation differences on foreign currency net investment ($|Av2i - Av2i-1|$), and during the years 2002~2007 for the reclassification of cash flow hedge derivatives ($|Av3_i - Av3_{i-1}|$).

$Av1_i$=|reclassification of available-sale-security i|/|net income $_i$|
$Av2_i$=|reclassification of exchange translation differences on foreign currency net investment $_i$|/|net income $_i$|

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[76] Reclassification is a procedure in which other comprehensive income items, when turned into realized items, are charged to net income from other comprehensive income.

$Av3_i = |$ reclassification of cash flow hedge derivatives $i|/|$net income $_i|$

      Av: average, i: firm year

② **Multiple linear regression analysis**

  As an additional examination for robustness, we conducted multiple linear regression analysis considering the factors that are presumed to affect the reclassification of other comprehensive income items.

Model: $Yit = \alpha_0 + \alpha_1 LVit + \alpha_2 PBRit + \alpha_3 D1it + \alpha_4 D2it + \alpha_5 YD1it + \varepsilon it \cdots ①$

       $Yit = \alpha_0 + \alpha_1 LVit + \alpha_2 PBRit + \alpha_3 D1it + \alpha_4 D2it + \alpha_5 YD2it + \varepsilon it \cdots ②$

    $Yit = \alpha_0 + \alpha_1 LVit + \alpha_2 PBRit + \alpha_3 D1it + \alpha_4 D2it + \alpha_5 YD3it + \varepsilon it \cdots ③$

Yit: |reclassification of available-for-sale-securities $_i|/|$net income $_i|$ of firm$_i$ in year$_t$

LV: liability to equity ratio

PBR: Price to book ratio

D1: if net income is negative or decreased (more than 30% decrease over the previous year), 1. otherwise 0.

D2: if there is more than 20% difference between reported net income and forecasted income, then 1; otherwise 0.

YD1: if 1995~1998, then 0; otherwise 1

YD2: if 1995~2004, then 0; otherwise 1

YD3: if 1999~2004, then 0; otherwise 1

εit: disturbance term

  If the liability to equity ratio is high, it can be expected that managers tend to increase earnings in order to decrease interest rate or to borrow more (loans, etc…). On PBR, if the firm's growth potential is high, managers try to increase earnings in order to make it look like their firm keeps growing. When earnings are negative, decrease or have a large difference between its forecasted income, it is presumed managers tend to increase earnings. YD1, YD2, YD3 are dummy variables to examine whether there is a difference of earnings management by other comprehensive income items before and after introducing reporting comprehensive income.

5.　Results and Implication
(1) Results form t-test

  Figure 1 shows that before introducing comprehensive income reporting (1995~1998), the average of reclassification related to available-for-sale-securities is 18.702. On the other hand, after adopting comprehensive income reporting, the average is 12.567. And the difference between them is statistically significant (5%). This result suggests that there is a possibility that the adoption of reporting comprehensive income affects the magnitude of earnings management with available-for-sale-securities and managers do not manipulate net income as much as before[77].

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[77] It is conceivable that the tendency of reclassification of available-sale-security is influenced by the stock market trend. Then we examined it by analyzing the relation between the reclassification of available-sale-security per share and the average of Nikkei. The result is that the correlation coefficient is 0.11 and t-value is 0.382. Consequently, we conclude there is no strong relation between them.

Figure 2 presents the direction of earnings management by available-for-sale-securities. We sort out the reclassification of available-for -sale-securities per total asset each year into two categories, a positive and negative category, and accumulate each category each year. According to Figure 2, it is implied that ,except between 1999 and 2003, earnings managements in order to increase income are conducted more often.

Then, for analyzing the trend of the earnings management, we separate the examination period into three parts－1999~2001, 2002~2004, 2005~2007, and compare the average of the reclassification of available-for-sale-securities in each period with one in 1995~1998, the period in which had not adopted comprehensive income reporting.

The result is presented in Figure 3. First, the average in1999~2001 is very close to the one in 1995~1998 in Figure 1. Second, the average in 2002~2004 is less than in 1995~1998, but the difference between them is not statistically significant. On the contrary, the average in 2005~2007 is 6.704 and the difference is statistically significant (1%). This implies that soon after introducing comprehensive income reporting, managers did not care about it so much, but gradually got to be conscious of the change and restrained themselves from manipulating net income by managing available-for-sale-securities[78].

Additionally, we conducted the same examination including the reclassification of exchange translation differences on foreign currency net investment and cash flow hedge derivatives in 2002~2007 and compared to the average in 1999~2001. The implication form the result was almost the same as Figure 4 shows.

(2) Results and implications from the multiple linear regression analysis
Figure 5, 6 and7 show the results form the multiple linear regression analysis. First, as the previous researches implied, when firms have a high leverage ratio, negative or less net income, managers tend to sell available-for-sell-securities to manage net income. The result is the same when firms have a large difference between forecasted net income and reported one. Second, from figure 5 and 6, in the beginning of the period when comprehensive income reporting is introduced, there is no statistically significant change for the reclassification of available-for-sale-securities, but after 2005 it is presumed that there is decreasing of earnings management for net income, because the coefficient of YD2 is negative and statistically significant (1%).

Figure 7 presents the result from the analysis that includes reclassification of exchange translation differences on foreign currency net investment and cash flow hedge derivatives. In this analysis, it is implied that managers restrain manipulation of net income by using other comprehensive income items, because the coefficient of YD3 is negative and statistically significant (5%).

6. Conclusion
From the analysis above, we can draw these conclusions and implications.

Firstly, when leverage is high or earnings are negative or less than previous year, managers tend to manipulate earnings by using other comprehensive income items, but the magnitude is getting smaller lately.

Secondly, soon after introducing comprehensive income reporting, there is no significant decreasing of earnings management by using other comprehensive income,

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[78] For testing its robustness, we conducted the same examination using total asset instead of net income. The result was the same.

but these days we can find some statistically significant evidences for it. Therefore, we can conclude that it took time for FAS130 to function well as standard-setter expected. In other word, managers needed time to recognize that the extent of transparency for financial reporting was changed by FAS130.

However, we cannot deny that there are some limitations to these conclusions. Our samples are Japanese firms which adopt SEC standard in 東証一部. Besides, we need to distinguish discretionary parts from non-discretionary parts more precisely in order to get more accurate results.

Figures:

Figure1: The trend of reclassification related to available-for-sale securites

1995-1998		1999-2007	
Average	18.702	Average	12.567
Standard error	2.633	Standard error	1.392
Median	5.197	Median	4.441
Standard deviation	21.716	Standard deviation	22.068
Variance	471.593	Variance	487.015
Number of samples	68	Number of samples	251

Figure 2: Direction of earnings management of the reclassification related to available-for-sale-securities
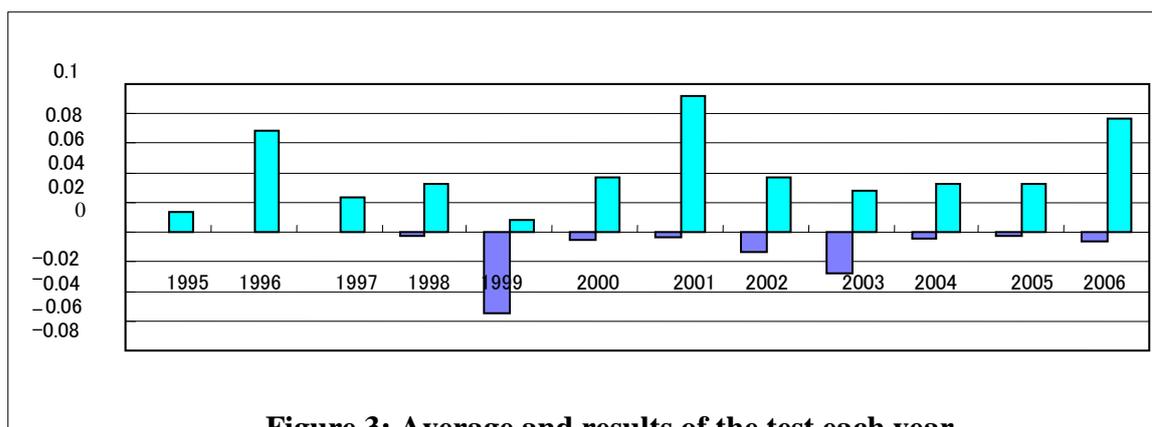
Figure 3: Average and results of the test each year

*** statistically significant 1%

	1999－2001	2002－2004	2005－2007
Average	18.719	14.058	6.704
Variation	519.174	596.544	306.138
Number of samples	68	89	94
Degrees of freedom	134	151	125
T－value	−0.0046	1.2574	3.758***

Figure 4; Result including other comprehensive income items

	1999－2001	2002－2004	2005－2007
Average	35.262	15.674	8.935
Variation	2428.200	444.792	973.753
Numbers of Sample	68	89	94

Degrees of freedom	—	69	71
t-value	—	1.029	1.736*

* statistically significant 10%

Figure 5: Results of the multiple linear regression analysis (reclassification of available- after 1999)

	Coefficient	t-value
Intercept	-8.958	-0.825
LV	35.136	2.903***
PBR	4.38	1.305
D1	19.151	2.563**
D2	5.951	1.067
YD1	-1.449	-0.38
Adjusted R^2	0.049	-
Number of Samples	315	-

** statistically significant 5%, ***statistically significant 1%

Figure 6: Results of the multiple linear regression analysis (reclassification of available- after 2005)

	Coefficient	t-value
Intercept	-1.924	-0.192
LV	32.851	2.747***
PBR	3.687	1.111
D1	17.974	2.434**
D2	7.866	3.394
YD2	-15.474	-2.788**
Adjusted R^2	0.072	-
Number of Samples	315	-

** statistically significant 5%, ***statistically significant 1%

Figure 7: Results of the multiple linear regression analysis (reclassification of other comprehensive income)

	Coefficient	t-value
Intercept	-5.611	-0.477
LV	42.479	3.062***
PBR	2.975	1.877*
D1	21.185	2.486**
D2	3.313	0.536
YD2	-14.665	-2.428**
Adjusted R^2	0.077	-
Number of Samples	322	-

* statistically significant 10%, ** statistically significant 5%, ***statistically significant 1%

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THE EFFECT OF CORPORATE NAME
CHANGES ON THE EARNINGS MANAGEMENT IN KOREA

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Abstract

Recently, corporate name changes by loss-reporting firms are increasing among the KOSDAQ market firms.

We first examine the current trend of and reasons for corporate name changes. Second, we examine empirically whether name change firms are associated with particular patterns of discretionary accruals. We divide the reasons for corporate name changes into cosmetic change, industry change, and largest stockholder change to examine whether there are differences in earnings management practices. From a sample of 401 name change firms over the period of 2004 to 2008, we find that bad operating performance is followed by corporate name changes. Many of the firms changing their names are plagued by embezzlements or financial fraud by management. Also many of the firms changing corporate names are administrative issues in the KOSDAQ market. Some firms change their names following major structural changes like industry change, CEO change or largest stockholder change. We find that name changes are negatively related with discretionary accruals, particularly when they change names due to accumulated losses.

Our study adds to the literature in the sense that it is the first attempt to examine the characteristics of firms changing their names and to investigate the impact of corporate name changes on discretionary accruals.

Keywords: corporate name change, loss-reporting firms, earnings management.

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1. Introduction

Recently, the financial press reports the trend that increasing number of firms change their names. Twenty four KOSDAQ firms have changed their names twice in a year and three firms have changed their names up to five times over the period of 2004 to 2008.

Corporate name is supposed to serve as a signal to convey information about a firm's major business or product lines. Investors will be better served as long as corporate names can be associated with major businesses or product lines.

According to the Korea Exchange, about one eights of KOSDAQ firms have changed their names in 2008. Why do they change their names despite non-trivial cost associated with name changes? The value of a firm would be increased if corporate name change positively conveys the plan of real changes in the firm's business activities, restructuring or reorganization.

Facing the rapid increase in corporate name changes, investors are advised to exercise caution when they make investment decisions in the firms which change their names, particularly when they purchase the securities of name change firms to disguise accumulated losses. According to our investigation, there is a big increase in corporate name changes by loss-reporting firms even though it is accompanied by non-trivial costs such as consulting fees and corporate identity costs.

Some of firms changing their names are involved in litigations such as fraud or embezzlement. Some of them are administrative issues in the KOSDAQ market. Some of them change their names following the largest stockholder changes. Especially, firms for which the largest stockholders are changed more than twice a year are designated as firms that need a special attention.

The KOSDAQ market has some features that can be distinguished from the KSE market. KOSDAQ firms are smaller and younger than KSE firms. The disclosure environment of the KOSDAQ market is inferior to the KSE. As a result, we believe the information asymmetry in the KOSDAQ would be worse than the KSE.

Yoon (2005) finds that KOSDAQ firms tend to manage earnings more aggressively than KSE firms. So there is an increasing concern on the reliability and transparency of the financial statements of KOSDAQ firms.

We find that corporate name changes in the KOSDAQ market are more frequent than in the KSE market, particularly there is a big increase in KOSDAQ market. The

announcements of corporate name changes in KOSDAQ have started since 2000 and they have announced reasons of changing definitely since 2007. The KOSDAQ market have enforced that firms changing name frequently should announce the details to prevent investors' confusion whether they had changed corporate name within 2 years since 2007 and it's one part of announcements management consolidation.

The prior literature of corporate name changes is almost about the relationship between corporate name change and stock price but they are scarce and the results in Korea are inconclusive. In this paper, we examine the purpose of the managements who change corporate name, different from the prior study. We first examine the current trend of corporate name change; how many firms have changed corporate names, how they have changed, why they change and who change corporate name. Second we examine empirically whether corporate name change firms are associated with discretionary accruals. We further divide the reasons of corporate name change into cosmetic change to hide negative earning, industry change or consolidation and change of the largest stockholders and examine whether there are differences among the corporate name change reasons.

Our study adds to the literature in the sense that it is the first attempt to examine the characteristics of firms changing their names and to investigate the impact of corporate name changes on discretionary accruals. We expect that our empirical results can play a role for the investors to let them know about corporate name changes by loss-reporting firms which increasing recently.

2. Background and Hypothesis Development

2. 1. Background

Most of the prior study about corporate name changes is about the relationship between corporate name change and stock price. Previous studies have shown mixed results about corporate name changes and valuations.

Song(1991) studied the stock price reactions to corporate name change announcements of 74 announcements for the period from 1980 to 1990. He found that weak positive stock price reaction to the announcement and he also suggests that findings are sensitive to sample selection.

Some suggests that the valuation effects of name changes are only modest and transitory. Horsky and Swyngedouw(1987) studied the effect of corporate name change on profit performance of firms and the type of firms that have a positive effect. They rightly conclude that the act of name change per se do not enhance the demand for firms' products.

Howe(1982) found that there is no significant share-price reaction was associated with corporate name changes. Also Karpoff and Rankined(1994) find little evidence that corporate name changes corresponded to changes in a firm's stock return covariability with its industry index or with changes in the firm's earnings growth rate. On the subject of fashions in naming, Cooper, Gulen and Rau(2005) examine whether or not mutual funds change their names to take advantage of currently popular investment styles, and what effects such name changes have on inflows to the funds and on the funds' subsequent returns. They report that funds adopting fashionable names experience an average cumulative abnormal inflow of 28%, with no improvement in performance, the year after such a change.

Overall, prior studies suggest that corporate name change affects stock prices in short-term, but it has no effects on firms' performance.

2. 2. Hypothesis development

The disclosure environment of the KOSDAQ market is inferior comparing the KSE. So there is an increasing concern on the reliability and transparency of the financial statements of KOSDAQ firms.

Yoon (2005) finds that KOSDAQ firms tend to manage earnings more aggressively than KSE firms. Na(1996) finds that loss-reporting firms have an incentive to lower accruals. We believe corporate name changes by loss-reporting firms will lower their earnings because most of them are administrative issues or have high debt-ratio so they couldn't manage earnings upward. We find that most of firms changing their names report current loss and have high leverage. According to the previous study and our investigation, we believe that corporate name change firms have incentives to manage earnings to disguise accumulated losses, so we set our first hypothesis as follow:

H1: There is a relationship between the corporate name change firms and earnings management.

Based on Hypothesis 1, we examine empirically the difference in reasons for corporate name changes. According to the previous study, the reasons for corporate name changes could be due to show expanded product offerings and strategic direction, to reflect company diversification and expansion, to provide a more universally representative name, and to reflect new identity following a change in ownership.

So we partition the reasons for corporate name changes into the cosmetic name change, industry change and largest stockholders change. We examined foreign ownership or export proportion to figure out firms changing their name for globalization. But we find that foreign ownership or export proportion have decreased rather following corporate name changes and we think there is a probability of misjudgment how much increase is enough to change their name for globalization and it is too subjective to judge the extent of increase. So we exclude the globalization as the reason for corporate name changes.

Yang et al.(2009) report that managers of loss-reporting firms may take actions to accelerate the collection of receivables, and delay the purchases of inventory and payment of payables so those actions will result in the decrease of accruals. Regarding our investigation, in 260 KOSDAQ firms changing largest stockholders, 52 percentages of largest stockholders change firms have same executives with largest stockholders. DeAngelo(1988) find that the executives change firms intend to manage earnings lower to maximize next earnings when they change executives. According to previous research, we expect corporate name change of largest stockholders change firms and cosmetic change firms would have negative discretionary accruals. Therefore we set our second hypothesis to investigate the difference among the reasons for corporate name changes.

H2: There are differences of discretionary accruals among the reasons for corporate name changes.

3. Sample Selection and Research Methods

3. 1. Sample

We select our sample firms listed on Korean Securities Dealers Automated Quotations(KOSDAQ) and who change the corporate name from 2004 to 2008. The financial data were retrieved electronically from KIS-VALUE database. The data of corporate name change and industry change were on on-hand processing from KIND database in Korea Exchange. And the data of the largest stockholders change and were manually collected from business report of DART and KIS-VALUE database.

We came up with a final sample of 4,499 firm-year observations and we selected 401 firm-year observations for the corporate name change firms from 566 firm-year observations who had announced the name change.

3. 2 Research Methods

The purpose of our study is twofold: (1) descriptively analyze the trend and pattern of corporate name change and (2) empirically examine whether corporate name change associated with discretional accruals.

We first descriptively examine the current trend of corporate name change; how many firms change corporate names, how they have changed, why they change and who change names.

Second we examine empirically whether name change firms are associated with discretionary accruals. And we divide the reasons for corporate name changes into cosmetic change, industry change and largest stockholders change to focus on why they change corporate names. We examine whether there are differences among the reasons.

3. 2. 1. Estimation of Discretionary Accruals

Estimating discretionary accruals affects the success of earnings management tests. Therefore, the development of a well-fitting model is very important for this part

of research. In this research we use discretionary accruals as the proxy of earning management and we use 3 models to minimize errors from the model setting. First we use the modified Jones model (Dechow et al. 1995). Prior research documents that the modified Jones model is generally effective. Our first model is described as follows:

$$TA/BTA = b_0 + b_1(\Delta REV_i - \Delta REC_i)/BTA_i + b_2 PPE_i/BTA_i + e_i \qquad (1\text{-}1)$$

Here, TA (total accruals) = NI (net income) – CFO (cash from operations); REV = net sales revenue; REC = trade receivables; PPE = property, plant, and equipment; BTA = beginning total assets; Δ = change operator

The discretionary accruals are obtained by subtracting fitted values of accruals that is, non-discretionary accruals, from the total accruals as follows:

$$DAi = TAi/BTAi - [b0 + b1(\Delta REVi - \Delta REC i)/BTAi + b2 PPEi/BTAi] + e_i \qquad (1\text{-}2)$$

Yoon and Miller (2002) document that the modified Jones model does not fit well, particularly for Korean firms. Kothari et. al (2005) suggest that it is better to give an additional independent variable to control firms' performance in the modified Jones model when estimating discretionary accruals. Yoon and Miller (2002) find that cash from operations is the major determinant of accruals. So we include cash from operations as an additional independent variable as a control variable of performance. Our second model is described as follows:

$$TA/BTA = b_0 + b_1(\Delta REV_i - \Delta REC_i)/BTA_i + b_2 PPE_i/BTA_i + b_3 CFO_i/BTA + e_i \qquad (2)$$

The way to have the discretionary accruals and variables are same with model (1-2). Lastly Kothari et al. (2005) suggest that discretionary accrual models may be mis-specified when applied to firms with extreme past performance, proposing that a matching procedure based on performance(ROA) is more appropriate for these firms. Return on assets(ROA) is net income deflated by total assets. Consistent with

Kothari et al. (2005), we implement the 'performance-matched' discretionary accrual model.

Our third model is described as follows:

$$TA/BTA = b_0 + b_1(\Delta REV_i - \Delta REC_i)/BTA_i + b_2 PPE_i/BTA_i + b_3 ROA_i + e_i \qquad (3)$$

The way to have the discretionary accruals and variables are same with model (1-2).

3. 2. 2. Regression models

First we examine whether corporate name changes have an effect on earnings management. NC is the main variable in our model and we add control variables, we regress DA1 (2, 3) on NC and controlling for CFO, LEV, SIZE, GRW.

$$DA1 \ (DA2, DA3)_{it} = b_0 + b_1 NC + b_2 CFO_{it} + b_3 LEV_{it} + b_4 SIZE_{it} + B_5 GROW_{it} + e_{it} \qquad (4)$$

Next we regress of DA 1(2, 3) on LC, IC, OC and controlling for CFO, LEV, SIZE, GRW to investigate whether there are differences among the reasons for corporate name changes. LC is a dummy variable which has a value 1 when a firm report current loss and IC is a dummy which has a value 1 when a firm change industry from consolidation or change the primary products. OC is a dummy which has a value 1 when largest stockholders are changed for corporate name change firms.

$$DA1 \ (DA2, DA3)_{it} = b_0 + b_1 LC + b_2 IC + b_3 OC + b_4 CFO_{it} + b_5 LEV_{it} + b_6 SIZE_{it} + B_7 GROW_{it} + e_{it}$$

$$(5)$$

Model 6 is for investigating the effect of interaction of multiple factors on discretionary accruals. We add 4 interaction variables in model 5. LCOC is an interaction dummy for
name change from loss-reporting and largest stockholders change. LCIC is an interaction
dummy for name change from loss-reporting and industry change. ICOC is an interaction

dummy for name change from largest stockholders change and industry change.
LCICOC
is interaction dummy from loss-reporting and largest stockholders change and
industry
change. Other control variables are same with model 4.

$$DA1\ (DA2, DA3)_{it} = b_o + b_1LC + b_2IC + b_3OC + b_4LCIC + b_5LCOC + b_6ICOC + b_7LCICOC$$
$$+ b_8CFO_{it} + b_9LEV_{it} + b_{10}SIZE_{it} + B_{11}GROW_{it} + e_{it} \qquad (6)$$

3. The Trend of Corporate Name Change

In this section, we briefly describe the corporate name changes in Korea in terms
of disclosure frequency, industry dispersion, the reasons for change, the pattern of
changed name. And we compare financial features with non-changing firms and
changing firms.

3. 1. The frequency of corporate name change

According to KIND of Korea Exchange, 131 KOSDAQ firms and 53 KSE firms
have changed their name in 2008 and they were 110 firms of KOSDAQ and 40 firms
of KSE in 2007. Figure 1 report the number of corporate name change firms from
2003 to 2008. We find that they are steadily increased, especially in the KOSDAQ
market.
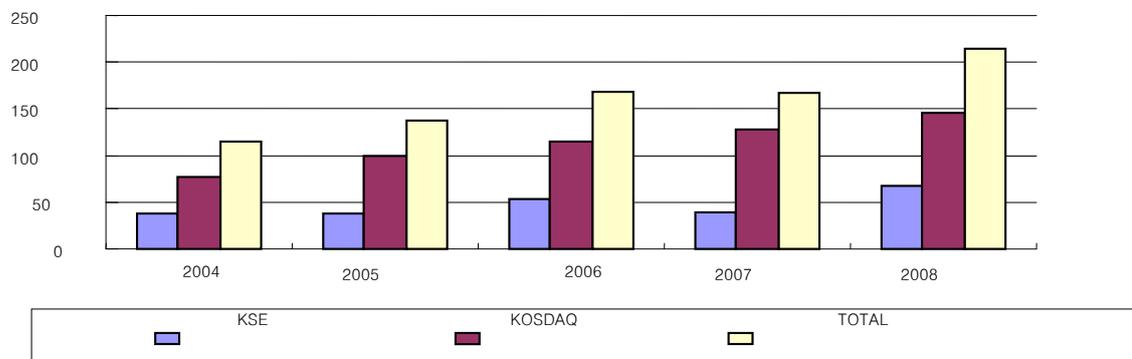
[Figure 1] Frequency of corporate name change

From 2004 to 2008, there are 24 firms changing their corporate names twice in a year and 91 firms have changed their name twice for 5 years. Twenty four KOSDAQ firms have changed their names twice in a year and three firms have changed their names up to five times over the period of 2004 to 2008. So we examine the features of corporate name change based on KOSDAQ firms.

Figure 2 reports industry dispersion of corporate name change firms from 2004 to 2008.

98 Electronic·computer Manufacturing companies changed their names and 90 Broadcast and media companies and 70 service companies changed their names. It means corporate name changes happen in all over the industry, not in some industry.
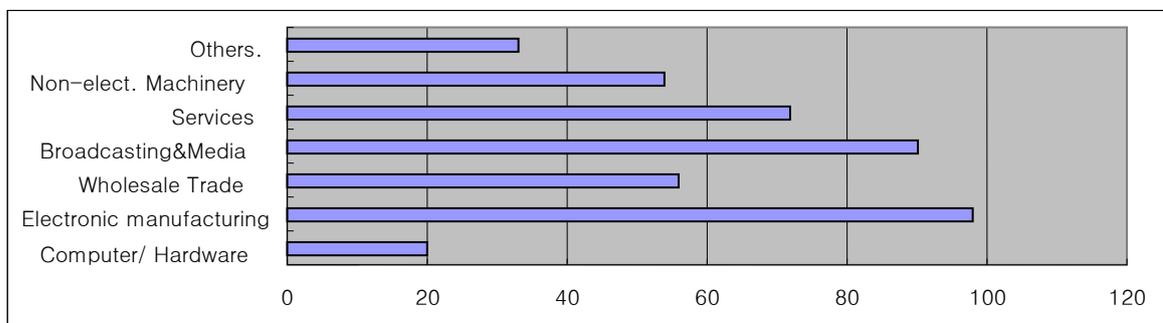
[Figure 2] Industry dispersion of corporate name changes

3. 2 The Reason for Corporate name changes

According to the previous study, the reasons for corporate name change could be due to show expanded product offerings and strategic direction, to reflect company diversification and expansion, to provide a more universally representative name, and to reflect new identity following a change in ownership.

Based on previous study we partitioned the reasons for corporate name changes into 6 cases from 2004 to 2008. The largest stockholders change, the foreign ownership and export proportion data were retrieved electronically from KIS-VAUE database and the data about primary product change, consolidation and diversification during the study period were manually collected from KIND of Korea Exchange.

Table 1 report the partition of reasons for corporate name change firms who were able to figure out.

<Table 1> Reasons for corporate name changes

Reasons for corporate name changes	Numbers	Percent(%)
Change in primary products two consecutive years	18	4.6%
Industry change from spin-offs	22	5.5%
Industry change from consolidations	28	7%
Increase in foreign ownership	20	5%
Increase in export proportion	44	11.2%
Change in largest stockholders	261	66.4%
SAMPLE(2004~2008)	393	100%

We find that the 60% of corporate name change firms have changed largest stockholders at the same year. And firms who announced the reason for change to industry change from consolidation or diversification were 50 firms and 18 firms announced the reason for change to the change of the primary products. We investigate the foreign ownership and the export proportion but we find that most of the ownership and the proportion of corporate name change firms were rather decreased after changing.

We partitioned the pattern of corporate name changes in table 2. Almost 90% firms changed corporate name to English name from Korean name or to another English name from English name and only 13 firms changed to Korean name from Korean or English name.

<Table 2> Pattern of corporate name changes

Pattern of corporate name changes	Numbers	Percent(%)
from Korean/English name To Korean name	13	2
Add "holdings" for change to a holding company	12	2
Industry change	23	5
From Korean/English name To English name	462	90
SAMPLE(2004~2008)	511(Firms)	100%

According to press report, investors feel that English corporate name firms are like small, unfaithful and they generally have a negative image to English name using firms.

3. 3. Characteristics of corporate name change firms

We examine the other disclosure of corporate name changes firms to find the features of them from 2004 to 2008. According to press report, investment experts warn to invest the firms who change corporate name in the KOSDAQ because there

are so many firms changing their names to disguise negative image as stock price handling, embezzlements of management in KOSDAQ.

We find that almost 30% of corporate name changes firms are administrative issues in the KOSDAQ market. We also find that there are 140 firms who announced the embezzlements or misappropriation of management from 2004 to 2008 and 64 firms changed their name after the announcement.

We performed mean difference test to investigate the characteristics of firms who change corporate name using financial statements.

We report the result of comparison between corporate name change firms and non-changing firms in table 3. We run parallel Mann-Whitney test to minimize the problem of rare elimination of odds.

[Table 3 about here]

Table 3 shows that average leverage ratio is higher for corporate name change firms than for the control firms and there is significant difference between them. We find that there is significantly big difference between two groups in current net income and operating income. And corporate name change firms have lower cash from operations(CFO) than control firms and the difference between two groups are significantly big.

In conclusion, we find that corporate name change firms generally report bad performance comparing non-changing firms and many corporate name change firms announce the embezzlements or misappropriation of management. Also there are many corporate name change firms of administration from KOSDAQ market. And there are general changes as industry change or largest stockholders change in the corporate name change firms.

4. Empirical results

4. 1 Descriptive statistics and Variables correlation

Table 4 presents the mean, lower quartile, median, and upper quartile, standard deviation of the dependent and independent variables used in the study. Average 9 percent of KOSDAQ firms changed their name and 73 percent of them report current losses. 61 percent and 13 percent of them change the largest stockholders and industry respectively, we show that in Panel 1. Cash from operations(CFO), operating income(OP) and return in assets(ROA) of corporate name change firms is lower than total firms, it means that firms who report bad

performance tend to change their name. And the leverage ratio of corporate name change firms is higher and the size of corporate name change firms is smaller than Panel 2, so we find that the smaller firms more change their name.

[Table 4 about here]

The standard deviation of operating income and return on assets is big so that we try to minimize the eliminations of observations to represent the features of corporate name change firms. Instead we run parrel Mann-Whitney test for non-parametric statistics.

Table 5 shows the correlation coefficients between the pairs of the variables of interest for the sample in Panel 1 (corporate name change firms) and Panel 2(total firms).

[Table 5 about here]

The result of correlation analysis for both Panel 1 and Panel 2 indicates that corporate name change firm is significantly negatively correlated with discretionary accruals. It also shows that corporate name change by loss-reporting firms is significantly negatively correlated with discretionary accruals. And corporate name by largest stockholders change firms is significantly negatively correlated with discretionary accruals in panel 1. We find that cash from operations(CFO) and total accruals(TA) have a significant negative relationship and Leverage ratios have a significant negative relationship with both TA and DA.

However, the growth rate of sales and the size of firms do not exhibit significant relationship with accruals.

4. 2 Regression Analysis

The regression results for hypothesis 1 are reported in table 6.

[Table 6 about here]

The results are reported for regression DA1 (2, 3) on NC and controlling for CFO, LEV, SIZE, GRW. We do not control CFO in model 2 because we already control it during drawing model 2. For all model, the coefficients on NC are negative and significant at the .01 level.

We expect that corporate name change firms will lower their earnings because most of them have high debt-ratio or are administrative issues in the KOSDAQ market, so they can't manage earnings upward. We find that corporate name change firms have

negative discretionary accrual and the result is consistent with our expectation. All of the control variables exhibit coefficients consistent with the previous study and all variables are significant. Firms with higher debt ratio change corporate name more. Next we investigate whether there are differences of discretional accruals depending on the reason of corporate name change.

Table 7 shows the result of regression of DA 1(2, 3) on LC, IC, OC and controlling for CFO, LEV, SIZE, GRW. LC is a dummy variable which has a value 1 when a firm reports current loss and IC is a dummy which has a value 1 when a firm change industry through consolidation or change the primary products. OC is a dummy which has a value 1 when the largest stockholders are changed for corporate name change firms.

[Table 7 about here]

We expect there is difference among the corporate name changes. Yang et al.(2009) report that managers of loss-reporting firms may take actions to accelerate the collection of receivables, and delay the purchases of inventory and payment of payables. and those actions will result in the decrease of accruals. Our findings are consistent with the previous study. Corporate name change by loss-reporting firms have significantly negative discretionary accruals in all models, on the contrary the corporate name change of industry change firms and largest stockholders change firms have no significant relationship with discretionary accruals.

Therefore, the result supports hypothesis 2 that there are statistically significant differences among the reasons for corporate name changes.

Corporate name have changed by the interaction of multiple factors, by not just one factor. For example, corporate name change could be happened that the largest stockholders have changed by disposition of shares or the management right abundantly due to current bad performance. Largest stockholders could be changed following the industry consolidation or continued corporate restructuring. So we investigate the effect the interaction of multiple factors on discretionary accruals when corporate name change reasons are interplayed and table 8 reports that the result of regression.

 [Table 8 about here]

We find that corporate name change by loss-reporting firms have significantly negative discretionary accruals in all models and corporate name change of largest stockholders change firms have significantly positive discretional accruals in model 1

and 3. And corporate name change by loss-reporting and largest stockholders change firms have significantly negative relationship with discretionary accruals. It means the relationship between corporate name change by loss-reporting firms and discretionary accruals is strongest among other purpose.

Ⅴ. Conclusion

Corporate name is supposed to serve as a signal to convey information about a firm's major business or product lines. Investors will be better served as long as corporate names can be associated with major businesses or product lines. According to our investigation, there is a big increase in corporate name changes by loss-reporting firms even though it is accompanied by non-trivial costs such as consulting fees and corporate identity costs.

In this paper, we focus the purpose of the management who change their name, different from the prior study. We investigate the background to corporate name changes of Korean listed companies in the years of 2004 to 2008. We first descriptively examine the current trend of corporate name change; how many firms change corporate names, how they have changed, why they change and who change names. Second we examine empirically whether name change firms are associated with discretional accruals. We further divide the reason of corporate name change into cosmetic change to hide negative earning, industry change or consolidation and change of the largest stockholders to examine whether there are differences among the name change reasons.

We find that corporate name change firms generally report bad performance comparing non-changing firms and many corporate name change firms announce the embezzlements or misappropriation of management. Also there are many corporate name change firms of administration from KOSDAQ market. And there are general changes as industry change or largest stockholders change in the corporate name change firms. We find that name change firms have negative discretional accrual and especially name change firms with loss-reporting are significantly negatively associated with discretional accruals. This result means that there is difference among the purposes of corporate name change. And we also investigate the effect the interplay of multiple factors on discretional accruals when corporate name change purpose is interplayed, therefore we find that corporate name change of largest stockholders change with loss-reporting firms are significantly negatively

related with discretional accrual. It means that the relationship between corporate name change with loss-reporting and discretional accruals is strongest among other purposes. This result calls the validity of the corporate name change by loss-reporting firms in question.

Our study adds to the literature in the sense that it is the first attempt to examine the characteristics of firms changing their names and to investigate the impact of corporate name changes on discretionary accruals.

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<Table 3> The Comparison of corporate name change and non-changing firms

Variables	Sample firms (n=401)	Control firms (n=4098)	t-test	Mann-Whitney test Z
CFO	-0.18	0.03	-6.67	-13.24
LEV	0.51	0.42	4.66	-4.64
NI	-0.52	-0.05	-9.41	-15.95
OP	-0.13	0.03	-8.84	-14.17
ROA	-0.51	-0.07	-8.49	-15.62

<Definition of variables> CFO= the ratio of cash from operations to the beginning total assets(BTA); LEV=
the ration of debts to total assets; NI= net income to BTA; OP= operating income to BTA; ROA= net income to total assets.

<Table 4> Descriptive Statistics

<definition of variables> NC= corporate name change firms; LC= loss-reporting firms in corporate name change; IC= industry change through consolidation or diversification in corporate name change; OC=

Panel 1 Sample firms (n = 401)					
	mean	min	median	max	sd
LC	0.73	0.00	1.00	1.00	0.44
IC	0.14	0.00	0.00	1.00	0.34
OC	0.60	0.00	1.00	1.00	0.48
DA1	-0.23	-7.09	-0.11	14.33	1.09
DA2	-0.25	-7.06	-0.13	10.91	1.01
DA3	-0.04	-6.20	-0.03	14.57	1.11
TA	-0.33	-7.26	-0.17	9.48	0.96
CFO	-0.18	-8.54	-0.07	3.59	0.64
LEV	0.57	0.00	0.45	3.62	0.37
OP	-0.64	-32.23	-0.17	0.64	2.20
ROA	-0.51	-7.92	-0.22	0.35	1.10
SIZE	23.93	20.35	24.01	28.78	1.01
GRW	0.28	-0.99	0.06	6.81	1.10
Panel 2 Total firms (n = 4,498)					
	mean	min	median	max	sd
NC	0.09	0.00	0.00	1.00	0.28
LC	0.38	0.00	0.00	1.00	0.48
IC	0.01	0.00	0.00	1.00	0.11
OC	0.05	0.00	0.00	1.00	0.23
DA1	-0.04	-11.12	-0.00	14.33	0.49
DA2	-0.03	-10.68	0.00	10.92	0.46
DA3	0.01	-8.76	0.00	14.57	0.45
TA	-0.10	-12.86	-0.04	9.48	0.49
CFO	0.01	-8.54	0.03	7.66	0.32
LEV	0.43	0.00	0.40	5.68	0.33
OP	-0.11	-32.22	0.03	0.76	1.22
ROA	-0.11	-9.24	0.02	0.65	0.62
SIZE	24.44	20.26	24.42	28.85	0.87
GRW	0.19	0.99	0.08	6.81	0.73

the largest stockholders change in corporate name change; CFO= the ratio of cash from operations to the beginning total assets(BTA); LEV= the ration of debts to total assets; NI= net income to BTA; OP= operating income to BTA; ROA= net income to total assets; TA= total accruals; accruals are deflated by the BTA; DA1(2, 3)= discretional accrual through model 1(2, 3); SIZE= natural log of the total assets at the end of the year; GRW= the growth of sales.

<Table 5> Correlation Coefficients

Panel 1: Sample firms (n= 401)											
	DA1	DA2	DA3	TA	LC	IC	OC	CFO	LEV	OP	SIZE	GRW
DA1	1	0.93**	0.80**	0.93**	-0.46**	-0.00	-0.21**	0.04	-0.15**	0.38**	0.05	0.07
DA2	0.96**	1	0.75**	0.91**	-0.49**	-0.00	-0.26**	0.12*	-0.17**	0.43**	0.11**	0.05
DA3	0.90**	0.85**	1	0.72**	-0.24**	-0.00	-0.07	-0.22**	-0.08	0.08	-0.05	-0.00
TA	0.97**	0.96**	0.85**	1	-0.51**	0.00	-0.30**	0.08	-0.17**	0.44**	0.12*	0.11*
LC	-0.27**	-0.29**	-0.16**	-0.29**	1	0.03	0.33**	-0.49**	0.10*	-0.65**	-0.16**	-0.25**
IC	-0.00	0.01	-0.00	0.00	0.03	1	0.10*	0.00	0.07	0.04	0.02	0.07
OC	-0.11*	-0.14**	-0.03	-0.17**	0.33**	0.10*	1	-0.28**	0.03	-0.35**	-0.34**	-0.11*
CFO	-0.37**	-0.26**	-0.45**	-0.25**	-0.21**	0.00	-0.15**	1	-0.05	0.66**	0.42**	0.22**
LEV	-0.15**	-0.15**	-0.01	-0.17**	0.14**	0.04	0.06	-0.08	1	-0.03	0.09	0.05
OP	0.07	0.07	-0.00	0.09	-0.16**	-0.10*	-0.14**	0.15**	-0.16**	1	0.29**	0.41**
SIZE	0.05	0.05	-0.00	0.13**	-0.12*	0.01	-0.31**	0.38**	0.02	0.11**	1	-0.00
GRW	-0.01	-0.01	-0.04	-0.02	-0.16**	0.06	-0.03	0.05	-0.00	0.18**	-0.13**	1

Panel 2: Total firms (n= 4,499)												
	DA1	DA2	DA3	TA	NC	LC	IC	OC	CFO	LEV	OP	SIZE	GRW
DA1	1	0.92**	0.85**	0.82**	-0.13**	-0.37**	-0.05**	-0.14**	-0.19**	-0.13**	0.27**	0.05**	0.09**
DA2	0.94**	1	0.76**	0.78**	-0.15**	-0.44**	-0.06**	-0.17**	-0.07**	-0.14**	0.33**	0.08**	0.09**
DA3	0.88**	0.80**	1	0.67**	-0.04*	-0.11**	-0.01	-0.04**	-0.42**	-0.02	0.01	-0.03	0.06**
TA	0.90**	0.86**	0.78**	1	-0.16**	-0.49**	-0.06**	-0.19**	-0.20**	-0.16**	0.37**	0.09**	0.17**
NC	-0.13**	-0.16**	-0.04*	-0.15**	1	0.22**	0.36**	0.76**	-0.20**	0.07**	-0.22**	-0.17**	-0.02
LC	-0.26**	-0.30**	-0.10**	-0.30**	0.22**	1	0.09**	0.23**	-0.50**	0.23**	-0.72**	-0.17**	-0.27**
IC	-0.05**	-0.05**	-0.01	-0.05**	0.35**	0.08**	1	0.33**	-0.07**	0.05**	-0.07**	-0.06**	0.01
OC	-0.15**	-0.18**	-0.04**	-0.17**	0.77**	0.23**	0.33**	1	-0.20**	0.06**	-0.23**	-0.19**	-0.04**
CFO	-0.25**	-0.08**	-0.40**	-0.19**	-0.20**	-0.29**	-0.07**	-0.20**	1	-0.23**	0.61**	0.15**	0.20**
LEV	-0.25**	-0.27**	-0.53*	-0.26**	0.10**	0.25**	0.04**	0.08**	-0.15**	1	-0.24**	0.13**	0.01
OP	0.14**	0.16**	0.00	0.15**	-0.17**	-0.27**	-0.14**	-0.20**	0.22**	-0.18**	1	0.17**	0.36**
SIZE	0.09**	0.11**	0.10**	0.15**	-0.19**	-0.17**	-0.06**	-0.21**	0.21**	0.04**	0.14**	1	-0.00
GRW	0.02	0.02	0.02	-0.02	0.03*	-0.09**	0.04*	0.01	0.02	0.00	0.13**	-0.10**	1

1) Pearson(Spearman) correlation coefficients are reported above(below) the diagonal. Statistical significance at 0.05 level(two-tailed).

2) Definition of variables; NC= corporate name change firms; LC= loss-reporting firms in corporate name change; IC= industry change through consolidation or diversification in corporate name change; OC= the largest stockholders change in corporate name change; CFO= the ratio of cash from operations to the beginning total assets(BTA); LEV= the ration of debts to total assets; NI= net income to BTA; OP= operating income to BTA; DA1(2, 3)= discretional accrual through model 1(2, 3); SIZE= natural log of the total assets at the end of the year; GRW= the growth of sales.

<Table 6> Regression of the effect corporate name change on discretional accruals

$DA1(DA2, DA3)= b_0 +b_1NC+b_2CFOit+b_3LEV_{it}+b4SIZE_{it}+b_5GROW_{it}+e_{it}$			
	DA1	DA2	DA3
Intercept	-1.96 (-10.15)	-1.15 (-6.23)	-1.17 (-6.82)
NC	**-0.25 (-10.49)**	**-0.18 (-8.07)**	**-0.15 (-7.15)**
CFO	-0.55 (-25.50)		-0.64 (-33.36)
LEV	-0.46 (-21.70)	-0.38 (-18.53)	-0.17 (-8.73)
SIZE	0.09 (11.10)	0.05 (7.02)	0.05 (7.38)
GRW	0.03 (3.74)	0.02 (2.51)	0.03 (3.10)
Adj. R^2	0.20	0.10	0.20
n= 4642			

<Definition of variables> NC= a value 1 when a firm change corporate name; CFO= the ratio of cash from operations to the beginning total assets(BTA); LEV= the ration of debts to total assets; SIZE= natural log of the total assets at the end of the year; GRW= the growth of sales; DA1(2, 3)= discretional accrual through model 1(2, 3).

<Table 7> Regression of discretionary accruals on the reasons for corporate name changes

$DA1(DA2, DA3)_{it}= b_0 +b_1LC+b_2IC+b_3OC+b_4CFOit+b_5LEV_{it}+b_6SIZE_{it}+b_7GROW_{it}+e_{it}$			
	DA1	DA2	DA3
Intercept	-4.91 (-3.93)	-0.01 (-0.01)	-4.40 (-3.51)
LC	**-0.81 (-7.27)**	**-0.60 (-5.24)**	**-0.63 (-5.75)**
IC	-0.03 (-0.26)	-0.09 (-0.86)	0.06 (0.58)
OC	0.06 (0.47)	0.10 (0.75)	0.02 (0.12)
CFO	-0.90 (-11.57)		-0.94 (-12.19)
LEV	-0.45 (-3.67)	-0.35 (-2.79)	-0.08 (-0.65)
SIZE	0.22 (4.36)	0.02 (0.36)	0.19 (3.78)
GRW	-0.02 (-0.41)	-0.05 (-1.12)	-0.03 (-0.78)
Adj. R^2	0.31	0.10	0.30

<Definition of variables> LC=a value 1 when a firm report current loss; IC=a value 1 when a firm change industry; OC=a value 1 when a firm change largest stockholders; CFO= the ratio of cash from operations to the beginning total assets(BTA); LEV= the ration of debts to total assets; SIZE= natural log of the total assets at the end of the year; GRW= the growth of sales; DA1(2, 3)= discretional accrual through model 1(2, 3).

<Table 8> Regression of discretionary accruals on the reasons for corporate name changes with interaction terms

$DA1(DA2, DA3)_{it} = b_0 + b_1LC + b_2IC + b_3OC + b_4LCIC + b_5LCOC + b_6ICOC + b_7LCICOC$ $+ b_8CFOit + b_9LEV_{it} + b_{10}SIZE_{it} + b_{11}GROW_{it} + e_{it}$			
	DA1	DA2	DA3
Intercept	-5.32 (-4.29)	-0.29 (-0.24)	-4.66 (-3.77)
LC	**-0.50 (-3.33)**	**-0.38 (-2.38)**	**-0.40 (-2.63)**
OC	**0.60 (2.90)**	0.38 (1.78)	**0.56 (2.70)**
IC	-0.11 (-0.20)	-0.08 (-0.16)	-0.17 (-0.32)
LCOC	**-0.83 (-3.50)**	**-0.64 (-2.60)**	**-0.66 (-2.77)**
LCIC	0.13 (0.21)	0.12 (0.20)	0.18 (0.30)
ICOC	-0.34 (-0.54)	-0.28 (-0.44)	-0.22 (-0.36)
LCICOC	0.46 (0.66)	0.46 (0.63)	0.28 (0.40)
CFO	-0.91 (-11.80)		-0.95 (-12.33)
LEV	-0.47 (-3.91)	-0.37 (-2.95)	-0.10 (-0.81)
SIZE	0.23 (4.61)	0.02 (0.51)	0.20 (3.96)
GRW	-0.02 (-0.46)	-0.05 (-1.16)	-0.03 (-0.82)
Adj. R^2	0.32	0.11	0.29

<Definition of variables> LC=a value 1 when a firm report current loss; IC=a value 1 when a firm change industry; OC=a value 1 when a firm change largest stockholders; LCIC= a value 1 when a loss-reporting firm change industry; LCOC= a value 1 when a loss-reporting firm change largest stockholders; ICOC= a value 1 when a firm change industry and largest stockholders; LCICOC= a value 1 when a loss-reporting firm change industry and largest stockholders; CFO= the ratio of cash from operations to the beginning total assets(BTA); LEV= the ration of debts to total assets; SIZE= natural log of the total assets at the end of the year; GRW= the growth of sales; DA1(2, 3)= discretional accrual through model 1(2, 3).

THE EFFECT OF EARNINGS MANAGEMENT THROUGH REAL ACTIVITIES ON FUTURE OPERATING PERFORMANCE (EMPIRICAL EVIDENCE FROM MANUFACTURING FIRMS LISTED IN INDONESIA STOCK EXCHANGE)

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ABSTRACT

This research aims to examine whether firms engage in real activities manipulation through selling, general, and administrative expense, production cost, and gain on asset sales and to examine the negative impact of real activities manipulation through these three indicators on future operating performance. Samples used in this research are 116 firms. Research model used is based on Gunny (2005) model. Statistic methods employed are one sample t-test and multiple linear regressions.

The results show that manufacturing public firms in Indonesia engage in real activities manipulation through the three indicators. Moreover, this research finds that real activities manipulation through production cost has significantly negative effect on future operating performance by cash flow return on asset proxy and cannot be proved by operating income return on asset proxy. Moreover, real activities manipulation through gain on asset sales found has significantly positive effect on operating performance in short-term but insignificantly positive impact on operating performance in the long-term. However, this research does not find that real activities manipulation through selling, general, and administrative expense has significantly negative effect on future operating performance.

Keywords :   real activities manipulation, selling, general, and administrative expense, production cost, gain on asset sales, future operating performance

1. Introduction

Financial statements are prepared using accrual basis of accounting. Accrual accounting is superior compared to cash basis because of the "matching principle" (allows revenues to be matched with corresponding expenses that are incurred in the same period, without regard on the timing of cash flows). But the use of accrual basis also provide management the flexibility to choose accounting methods. When management is given that flexibility, there is a possibility that they will engage in earnings management activity (Scott, 2009). According to Gunny (2005), earnings management can be classified into three catagories: fraud, accrual manipulation, and real earnings management or real activities manipulation. Real activities manipulation can be done by 1) reducing selling, general, and administrative

expense, 2) increasing production cost, 3) gain on asset sales (Gunny, 2005; Roychowdhury, 2006).

Oktorina (2008) finds that market performance of firms engaging in manipulation through operating cash flows is higher than firms not engaging in manipulation. Graham, Harvey, and Rajgopal (2005) suggest that in doing real activities manipulation, management tends to ignore future cash flows to achieve target earnings in this period. Cash flows is often used as a measure of operating performance that shows asset capabilities in generating operating income (Pradhono and Christiawan, 2004). These indicates that real activities manipulation will effect future operating performance negatively. Gunny (2005) also finds that real activities manipulation has economically significant negative impact on future operating performance.

Empirical research concerning real activities manipulation in Indonesia is still rare. This paper aims to examine whether firms engage in real activities manipulation through selling, general, and administrative expense, production cost, and gain on asset sales and to examine the negative impact of real activities manipulation through these three indicators on future operating performance.

This paper contributes to the literature on earnings management in several ways. First, the evidence in this paper suggests that real activities manipulation through gain on asset sales has significantly positive impact on operating performance in short-term and has insignificantly positive impact on operating performance in long-term, thus, providing the evidence that in doing real activities manipulation, management is not always ignoring future operating performance. Second, we find no evidence that real activities manipulation through selling, general, and administrative expense has significantly negative impact on future operating performance. This finding maybe due to the presumation that manipulation is done repeatedly on the following years.

2. Literature Review

2.1 Earnings Management

According to Scott (2009), earnings management is "*the choice by a manager of accounting policies, or actions affecting earnings, so as to*

achieve some specific reported earnings objectives". Gunny (2005) asserts that earnings management can be classified into three categories, such as fraudulent accounting, accruals management, and real earnings management. Fraudulent accounting involves accounting choices that violate GAAP. Accruals management involves within-GAAP choices that try to "obscure" or "mask" true economic performance (Dechow and Skinner, 2000; in Gunny, 2005). Real earnings management occurs when managers undertake actions that deviate from the first best practice to increase reported earnings (Gunny, 2005).

Fraudulent accounting and accruals management are not accomplished by changing the underlying economic activities of the firm but through the choice of accounting methods used to represent those underlying activities. In contrast, real earnings management involves changing the firm's underlying operations in an effort to boost current period earnings. Examples of real earnings management are cutting prices toward the end of the year in an effort to accelerate sales from the next fiscal year into the current year, delaying desirable investment, and selling fixed assets to affect gains and losses.

2.2   Real Activities Manipulation

Roychowdhury (2006) defines real activities manipulation as departures from normal operational practices, motivated by managers' desire to mislead at least some stakeholders into believing certain financial reporting goals have been met in the normal course of operations. These departures do not necessarily contribute to firm value even though they enable managers to meet reporting goals. Consistent to the definition by Roychowdhury (2006), Graham, Harvey, dan Rajgopal (2005) suggest that manager will manipulate their real activities to accomplish earnings target, eventhough these will decrease firm value in the long run.

Graham, Harvey, dan Rajgopal's (2005) survey finds that (a) financial executives attach a high importance to meeting earnings targets such as zero earnings, previous period's earnings, and analyst forecasts, and (b) they are willing to manipulate real activities to meet these targets, even though the manipulation potentially reduces firm value.

Real activities manipulation can reduce firm value because actions taken in the current period to increase earnings can have a negative effect on cash flows in future periods. For example, aggressive price discounts to increase sales volumes and meet some short-term earnings target can lead customers to expect such discounts in future periods as well. This can imply lower margins on future sales. Overproduction generates excess inventories that have to be sold in subsequent periods and imposes greater inventory holding costs on the company.

2.3 Real Earnings Management Technique

According to Roychowdhury (2006), there are three ways for management in doing real earnings manipulation: sales manipulation through increased price discounts or more lenient credit term, reduction of discretionary expenditures, and overproduction. Gunny (2005) adds one more way which allows manager to manipulate, that is timing the sale of fixed assets to report gains so that recognition of gain on asset sales can increase the reported earnings amount.

Production costs are defined as the sum of COGS and change in inventory during the period. By using production costs variable instead of COGS, as one of real activities manipulation indicator, eliminates the possibilities of accrual manipulation in reporting lower COGS by delaying write-offs of obsolete inventory. This accrual manipulation effect does not impact production costs, so that production costs primarily reflect the effects of real activities. Moreover, the LIFO/FIFO cost flow assumption affects reported COGS, but not production costs, due to offsetting effects on COGS and inventory change.

2.3.1 Sales Manipulation

Roychowdhury (2006) defines sales manipulation as managers' attempts to temporarily increase sales during the year by offering price discounts or more lenient credit terms. Jackson and Wilcox (2000), in Xu, Taylor, dan Dugan (2007) finds that manager grant sales price reductions in the fourth quarter to avoid reporting losses and decreases in earnings and sales. The increased sales volumes as a result of the discounts causes higher cash

inflows, but the cash inflow per sale, net of discounts, from these additional sales is lower as margins decline. The lower margins due to the price discounts causes production costs relative to sales to be abnormally high.

Another way to boost sales volumes temporarily to increase earnings is to offer more lenient credit terms (*zero-percent financing*) at the end of fiscal year. These are essentially price discounts and lead to lower cash inflow over the life of the sales, as long as suppliers to the firm do not offer matching discounts on firm inputs. These sales management activities lead to lower current-period CFO and higher production costs than what is normal given the sales level.

2.3.2 Discretionary Expenditure Reductions

Discretionary expenditures are expenses for firms as they incurred (*period costs*) which management has control in deciding the amount of reported expenses, such as R&D, advertising, and maintenance (Roychowdhury, 2006). By its control, management can reduce reported expenses, and increase earnings. If managers reduce discretionary expenditures to meet earnings targets, they should exhibit unusually low discretionary expenses. In effect, lowers cash outflows, so that has a positive effect on abnormal operating cash flows in the current period, possibly at the risk of lower cash flows in the future.

2.3.3 Overproduction

According to Roychowdhury (2006), in favor of manage earnings upward, managers of manufacturing firms can produce more goods than necessary to meet expected demand. By higher production levels, fixed overhead costs are spread over a larger number of units, lowering fixed costs per unit. As long as the reduction in fixed costs per unit is not offset by any increase in marginal cost per unit, total cost per unit declines. This implies that reported COGS is lower, and the firm reports better operating margins. Nevertheless, the firm incurs production and holding costs on the over-produced items that are not recovered in the same period through sales. As a result, cash flows from operations are lower than normal given sales levels. Ceteris paribus, the

incremental marginal costs incurred in producing the additional inventories result in higher annual production costs relative to sales.

2.3.4 Timing the Assets Sales

According to Gunny (2005), the timing of asset sales is a manager's choice, and since a gain is reported on the income statement at the time of the sale (the difference between the net book value and the current market value), the timing of asset sales could be used as a way to manage reported earnings. Bartov (1993), in Gunny (2005) provides evidence consistent with managers selling fixed assets in order to avoid negative earnings growth and debt covenant violations. Herrmann, Inoue and Thomas (2003), in Gunny (2005) investigate Japanese managers' use of income from the sale of assets to manage earnings. They find that firms increase (decrease) earnings through the sale of fixed assets and marketable securities when current operating income falls below (above) management's forecast of operating income.

2.4 Future Operating Performance

Net income are affected by operating decision and how a firm is financed. In analyzing operating performance of a firm, any effect of financing activities to earnings should be isolated. Financing activities, like dividend, interest income, and realized/unrealized gains should be separated from operating activities because financing performance can distort the operating performance (Wild et al, 2003; in Hasyim, 2006). Operating income is calculated before financing expense, such as interest expense, is deducted. So that, operating income is a more suitable operating performance proxy than earnings. Furthermore, according to Pradhono (2004), cash flows are more valuable to assure firm performance in the future. Cash flows shows the results of operations which the fund has been received by the firm and also, charged by the cash expenses and the expenses has been paid by the firm (Pradhono, 2004). Therefore, both operating income and cash flows are the best proxy to measure operating performance.

2.5 Prior Research

One of the prior research which examine real activities manipulation is research from Roychowdhury (2006) which examine the impact of earnings management through real activities manipulation on operating cash flows. Firms that reports low earnings is categorized as suspect firms, that is firms inclined of doing earnings management, because firms with low earnings tend to do earnings management by increasing earnings. The model used by Roychowdhury (2006) is Dechow, Kothari, and Watts (1998) model to estimate normal operating cash flows or expected operating cash flows. After estimating the normal operating cash flows, the deviation between actual and normal operating cash flows is calculated which be called abnormal operating cash flows. Roychowhury (2006) finds that real activities manipulation has impact on operating cash flows, that is firms doing real activities manipulation report abnormal operating cash flows compared to firms which is not detected of doing real activities manipulation.

Prior research which examine real activities manipulation and future operating performance is Gunny's (2005) research. Gunny (2005) investigates the consequences of real activities manipulation on operating performance in future period. The result indicates that firms doing real activities manipulation will find earnings and operating cash flows decreasing significantly in future period. In her research, Gunny (2005) uses performance-matching approach which the performance of each firms inclined of doing real activities manipulation compared to firms inclined of not doing real activities manipulation (compared firms) in the same year.

Research in Indonesia that examine real activities manipulation in relation to future performance were done by Rahman (2007) and Oktorina (2008). Rahman (2007) identifies real activities manipulation and accrual manipulation and also its impact on market and operating performance of IPO firms. The result shows that the motivation of earnings management when IPO is using discretionary accrual proxy, but not using real activities manipulation proxy. Oktorina (2008) identifies the firm's tendency to execute real activities manipulation through cash flow and its impact to market performance. The result shows that firm tend to execute real activities manipulation through operating cash flowbut not through investing and financing cash flow. Moreover, the impact of real activities manipulation on

market performance shows that firms are more likely executing real activities manipulation have higher market performance than their counterparts.

2.6 Hypotheses Development

Based on literature review, known that the four ways of how management doing real activities manipulation, that is by; manipulating sales through price discount and more lenient credit terms, reducing discretionary expense, overproduction, and timing of asset sales, will affect the amount of selling, general, and administrative expense, production cost, and gain on asset sales reported. This indicates that these three indicators could be used to examine whether firms doing real activities manipulation or not. The examination is done by using the abnormal value of three manipulation indicators. The abnormal value is the difference between normal value and actual value. Gunny (2005) and Roychowdhury (2006) focus on earnings management pattern which increases the amount of earnings reported, whereas our paper focus on the absolute value of real activities manipulation.

Because the real activities manipulation in recent period to increase earnings causing negative impact on future cash flows, this manipulation is inclined could decrease the firm's future operating performance. Referring to the result of Gunny's (2005) research, the abnormal value of selling, general, and administrative expense, production cost, and gain on asset sales will have a significant negative relationship with future operating performance which the abnormal value of selling, general, and administrative expense, production cost, and gain on asset sales are real activities manipulation proxies. However, Hillier, McColgan, dan Werema (2005) finds that the asset sales activities directs on firm's future operating performance increasing significantly.

In this paper, the dependent variable is future operating performance and the independent variables are; (1) real activities manipulation through selling, general, and administrative expense, (2) real activities manipulation through production cost, and (3) real activities manipulation through gain on asset sales.

Roychowdhury (2006) finds that firms inclined of doing real activities manipulation reports low abnormal discretionary expense. Beside that, firms

inclined of doing manipulation through excessive price discounts have high abnormal production cost. Also, firms inclined of doing manipulation through gain on asset sales have high abnormal gain on asset sales.

Hypothese 1a. Firms are engaging in real activities manipulation through selling, general, and administrative expense.

Hypothese 1b. Firms are engaging in real activities manipulation through production cost.

Hypothese 1c. Firms are engaging in real activities manipulation through gain on asset sales.

Firms tend to ignore future cash flows on firms doing real activities manipulation (Graham, Harvey, dan Rajgopal, 2005) to increase current earnings, however the future operating performance will decrease (Gunny, 2005). We use two operating performance measure: OIROA and CFROA.

Hypothese 2a. Real activities manipulation through selling, general, and administrative expense has a significant negative relationship with operating performance (OIROA) in one, two, and three years later.

Hypothese 2b. Real activities manipulation through production cost has a significant negative relationship with operating performance (OIROA) in one, two, and three years later.

Hypothese 2c. Real activities manipulation through gain on asset sales has a significant negative relationship with operating performance (OIROA) in one, two, and three years later.

Hypothese 2d. Real activities manipulation through selling, general, and administrative expense has a significant negative relationship with operating performance (CFROA) in one, two, and three years later.

Hypothese 2e. Real activities manipulation through production cost has a significant negative relationship with operating performance (CFROA) in one, two, and three years later.

Hypothese 2f. Real activities manipulation through gain on asset sales has a significant negative relationship with operating performance (CFROA) in one, two, and three years later.

3.   Research Methodology

3.1   Research Model

The focus in this paper is on the existence of real activities manipulation, not the sign (increasing or decreasing earnings). That is why we use absolute value of each real activities manipulation.

H_{1a} : $\mu_{ABNSGA} \neq 0$

H_{1b} : $\mu_{ABNProdCost} \neq 0$

H_{1c} : $\mu_{ABNGAIN} \neq 0$

To test our second hypotheses, we use following research model:

$$FOP_{i,t+y} = \beta_0 + \beta_1 ABNSGA_{i,t} + \beta_2 ABNProdCost_{i,t} + \beta_3 ABNGAIN_{i,t} + \beta_4 LNASSET_{i,t} + \beta_5 BTM_{i,t} + \beta_6 OIROA_{i,t} + \beta_7 D03_i + \beta_8 D04_i + \varepsilon$$

Where :

$FOP_{,t+1}$ = future operating performance, which measured using : 1) $OIROA_{i,t+y}$ and 2) $CFROA_{i,t+y}$

$ABNSGA_{i,t}$ = log abnormal value of selling, general, and administrative expense

$ABNProdCost_{i,t}$ = abnormal value of production cost

$ABNGAIN_{i,t}$ = abnormal value of gain on asset sales

$LNASSET_{i,t}$ = natural logarithm of total asset

$BTM_{i,t}$ = growth opportunity (equity book value/equity market value)

$OIROA_{i,t}$ = rate of operating income return before interest and tax toward assets

$D03_i$ = 1 if the observation year is 2003 and 0 if otherwise

$D04_i$ = 1 if the observation year is 2004 and 0 if otherwise

Control Variables

▪ LNASSET is used as a control variable because it is convinced that the firm's size has a relationship with future operating performance. In big firms, as having high total assets, they are able to generate higher operating income compared to small firms which having lower total assets.

▪ BTM is considered as a control variable because this variable is inclined of having relationship with future operating performance. According to McNichols (2000), in Siregar (2005), firms with high growth rate will be more correlated to firm's performance. Low BTM ratio shows a high growth opportunity for the firm. An opportunity to grow accomodates the increasing

of future operating performance. So that, the lower BTM ratio, the higher the future operating performance.

▪ OIROA variable is considered as a control variable because it is convinced that rate of operating income return on firm's total asset in year t affects future operating performance. The better operating performance in this period, the better operating performance in next period.

▪ D03 and D04 variables are dummy variables of observation period to account for the adjusted mean difference of dependent variables between years in research period.

3.2 Variable Definition

3.2.1 Dependent Variable

The future operating performance dependent variable is measured by *Operating Income Return on Assets* (OIROA) ratio and *Cash Flows Return on Assets* (CFROA) ratio.

$$OIROA_{i,t} = \frac{Operating\ Income_{i,t}}{TA_{i,t}}$$

Where:

Operating Income$_{i,t}$: operating income before interest and yearly tax on i firms t year

$$CFROA_{i,t} = \frac{Operating\ Cash\ Flows_{i,t}}{TA_{i,t}}$$

Where:

Operating Cash Flows$_{i,t}$: cash flows from operating activities on i firms t year

3.2.2 Independent Variables

a. Real activities manipulation through selling, general, and administrative expense

This manipulation is measured by log abnormal value of selling, general, and administrative expense (ABNSGA) which known by regressing the Gunny's (2005) estimation model which referring to Anderson et al.'s

(2004) model. Consistent to Anderson et al. (2004), the model uses variable log spesifications and deflating all variables with SGA in a year before to control heteroskedasticity and *scaling effect*. The estimation model is as mention below:

$$\log\left(\frac{SGA_{i,t}}{SGA_{i,t-1}}\right) = \alpha_0 + \alpha_1 \log\left(\frac{S_{i,t}}{S_{i,t-1}}\right) + \alpha_2 \log\left(\frac{S_{i,t}}{S_{i,t-1}}\right) \times Sdown$$

$$+ \alpha_3 \log\left(\frac{S_{i,t-1}}{S_{i,t-2}}\right) + \alpha_4 \log\left(\frac{S_{i,t-1}}{S_{i,t-2}}\right) \times Sdown + \varepsilon$$

Where :

$SGA_{i,t}$ = selling, general, and administrative expense plus advertising or promotion expense on i firms t year

$S_{i,t}$ = net sales

$Sdown$ = dummy variable will be equal to 1 if net sales in t period is decreasing compared to net sales in (t-1) period and 0 if otherwise

b. Real activities manipulation through production cost

This manipulation is measured by abnormal value of production cost (ABNProdCost) (Dechow et al., 1998; Roychowdhury, 2006).

$$\frac{ProdCost_{i,t}}{TA_{i,t-1}} = \alpha_0 + \alpha_1 \frac{1}{TA_{i,t-1}} + \alpha_2 \frac{S_{i,t}}{TA_{i,t-1}} + \alpha_3 \frac{\Delta S_{i,t}}{TA_{i,t-1}}$$

$$+ \alpha_4 \frac{\Delta S_{i,t-1}}{TA_{i,t-1}} + \varepsilon$$

Where :

$ProdCost_{i,t}$ = the total of production cost (COGS +ΔINV) on i firm t year

$\Delta S_{i,t}$ = the difference in net sales

c. Real activities manipulation through gain on asset sales

This manipulation is measured by abnormal value of gain on asset sales (ABNGAIN) which known by regressing the Gunny's (2005) estimation model as below.

$$\frac{GAIN_{i,t}}{MV_{i,t-1}} = \alpha_0 + \alpha_1 \frac{AssetSale}{MV_{i,t-1}} + \alpha_2 \frac{InvSale_{i,t}}{MV_{i,t-1}}$$

$$+ \quad \alpha_3 \log(S_{i,t}) + \alpha_4 \, SGrowth + \varepsilon$$

Where :

$GAIN_{i,t}$ = gain on asset sales on i firm t year

AssetSale = long term asset sales value

SGrowth = net sales growth of the preceding period (%)

3.2.3 Control Variables

Control variables used in this research: (1) Size of firms (LNASSET) measured by natural logarithm of total assets at year end, (2) Growth opportunity (BTM) which measured by BTM ratio where equity book value at the year end is divided by equity book value at year end, (3) Operating performance in this period (OIROA) measured by *operating income return on assets* ratio at year end, and (4) Observation years which definited as years of 2002 – 2004 by years of 2002 as base year, D03 = 1 if the observation year is 2003 and 0 if otherwise, and $D04_i$ = 1 if the observation year is 2004 and 0 if otherwise.

3.3 Sample Selection

Samples are selected from all population of manufacturing firms listed in Indonesia Stock Exchange (ISE), with following criteria: (1) Manufacturing firms has been listed in ISE since 2000 until 2007, (2) Using Rupiahs as reporting currency in financial reports, (3) The accounting period starts from January 1 until December 31, and (4) Has complete needed data.

3.4 Data Collection Methods

Data used in this paper are secondary data, that is yearly financial reports of the firms on year 2000-2007. The yearly financial reports datas collected through observations are obtained from CD-ROM OSIRIS *database* of public firms in Indonesia which belongs to Economy and Business Data Center of Faculty of Economics University of Indonesia, Stock Market Reference Center of Indonesian Stock Exchange, and www.idx.co.id.

Moreover, last year stock price data to calculate market values are obtained from subscribe Metastock which belongs to PT Finansial Bisnis Informasi and www.yahoo.com/finance. The classifications of manufacturing firms are based on *Indonesian Capital Market Directory* (ICMD) 2007.

Table 3.1

Sample Selection Procedure

Keterangan	Jumlah
Manufacturing firms listed in ISE on 2007	142
Sample selection criterias :	
Has not been listed in ISE since 2000 until 2007	(18)
Not using Rupiahs as financial reporting currency	(6)
Year end period other than December 31	(1)
Incomplete available datas	(1)
Firms that do not fulfill the sample selection criterias	(26)
Total Research Samples	**116**

4. Analysis

4.1 Descriptive Statistics

Descriptive statistics of variables used is presented in Table 4.1. Based on Table 4.1, the average of log abnormal value of selling, general, and administrative expense (ABNSGA) is 0,0703; the average of abnormal value of production cost (ABNProdCost) is 0,1523; and the average of abnormal value of gain on asset sales (ABN GAIN) is 0,0130. This may indicate that in average public manufacturing firms in Indonesia are doing real activities manipulation through the three indicators (SGA, ProdCost, and GAIN).

In addition, sample firms, have positive OIROA and CFROA. Our samples in average consist of profitable firms. The average value of asset total (in million) of whole samples is Rp 1,864,146.22 by the maximum value of Rp 39,145,102 and minimum value of Rp 33,434. This indicates that samples varies from small firms and big firms. Moreover, sample firms have *book-to-market* ratio average for -1,1330. These indicates that in average, sample firms on year 2002-2004 do not have high growth opportunity.

Table 4.1

Descriptive Statistics

	Mean	Median	Std. Deviation	Minimum	Maximum
OIROA(t+1)	0.0682	0.0673	0.1418	-0.6737	1.2865
OIROA(t+2)	0.0705	0.0659	0.1411	-0.6737	1.2865
OIROA(t+3)	0.0732	0.0694	0.1375	-0.6620	1.2865
CFROA(t+1)	0.0705	0.0673	0.1378	-0.6315	1.2865
CFROA(t+2)	0.0556	0.0540	0.1166	-0.6315	0.4701
CFROA(t+3)	0.0532	0.0528	0.1195	-0.6315	0.4701
ABNSGA	0.0703	0.0472	0.0850	0.0000	0.6258
ABNProdCost	0.1523	0.0873	0.1745	0.0001	1.1236
ABNGAIN	0.0130	0.0085	0.0248	0.0000	0.2234
TOTALASSET	1,864,146.22	534,249.50	4,031,570.17	33,434	39,145,102
BTM	-1.1330	0.9679	13.9074	-162.9636	22.3334
OIROA	0.0591	0.0586	0.1330	-0.6786	0.5566

OIROA(t+1) and CFROA(t+1) = operating performance in one year later, OIROA(t+2) and CFROA(t+2) = operating performance on two years later, OIROA(t+3) and CFROA(t+3) = operating performance in three years later, ABNSGA = log abnormal value of selling, general, and administrative, ABNProdCost = abnormal value of production cost, ABNGAIN = abnormal value of gain on asset sales, TOTALASSET = total asset (in millions), BTM = firm's opportunity to grow, OIROA = operating performance in this period.

The value of real activities manipulation above can be identified into two patterns, which is income-increasing pattern and income-decreasing pattern. Income-increasing pattern is indicated by negative log abnormal value of selling, general, and administrative expense and positive abnormal value of production cost and gain on asset sales. If vice-versa, then income-decreasing pattern occurs. Descriptive statistics of the three real activities manipulation variables which classified based on manipulation pattern done can be seen on Table 4.2 below.

Table 4.2

Descriptive Statistics – Real Activities Manipulation Variables

	Income-increasing Pattern			Income-decreasing Pattern		
	Mean	Median	Std. Deviation	Mean	Median	Std. Deviation
ABNSGA	-0.0764	-0.0491	0.0873	0.0650	0.0424	0.0829
ABNProdCost	0.1299	0.0876	0.1274	-0.1841	-0.0872	0.2217
ABNGAIN	0.0342	0.0116	0.0515	-0.0080	-0.0085	0.0037

ABNSGA = log abnormal value of selling, general, and administrative, ABNProdCost = abnormal value of production cost, ABNGAIN = abnormal value of gain on asset sales.

Based on Table 4.2 above, the average value of ABNSGA, ABNProdCost, and ABNGAIN on income-increasing samples is relatively not very different from income-decreasing samples. These shows any variations of real activities manipulation behavior pattern, in average, which is not just income increasing, but also income decreasing. By focusing only on one earnings management pattern, it wiil reduce the power of the test as has been revealed by Roychowdhury (2006). In order to avoid that, this paper is not limited only on one direction of real activities manipulation.

4.2   Hypothesies 1 Results

Table 4.3

Hypotheses 1 Results

Variable	Mean	p-Value(2-tailed)		Explanation
ABNSGA	0.0703	0.0000	***	H1a is not rejected
ABNProdCost	0.1523	0.0000	***	H1b is not rejected
ABNGAIN	0.0130	0.0000	***	H1c is not rejected

ABNSGA = log abnormal value of selling, general, and administrative, ABNProdCost = abnormal value of production cost, ABNGAIN = abnormal value of gain on asset sales.
*** represent statistical significance at α equals to 1%

Table 4.3 shows that real activities manipulation through selling, general, and administrative expense (ABNSGA), production cost (ABNProdCost), and gain on asset sales (ABNGAIN) have averages of 0,0703; 0,1523; and 0,0130. The significance value of the three abnormal values which equals to 0,0000 indicates that that firms do engage in real activities manipulation (hypotheses 1a, 1b, dan 1c are not rejected on confidence level of 99%). Based on these explanations, can be concluded that firms are inclined of doing real activities manipulation through selling, general, and administrative expense, production cost, and gain on asset sales.

4.4 Hypotheses 2 Results

Based on Table 4.4, ABNSGA do not have significant negative impact on future operating performance year, 2 years, and 3 years ahead, therefore, hypotheses 2a and 2d are rejected. The possible explanation of this findings is real activities manipulation through selling, general, and administrative expense is done repeatedly on the following years. This will make the negative impact emerged by real activities manipulation in last year on operating performance in next year is not detected.

The negative and coefficient sign of ABNProdCost shows that the higher production cost manipulation, the lower operating performance measured using *cash flow return on assets* in 1 year, 2 years, and 3 years ahead, but it is not significant if we use *operating income return on assets* proxy. Therefore, hypothese 2b is rejected and hypothese 2e is not rejected. The possible interpretation of this is management maybe engaging in accruals earnings management practice in the later years and so this will cover the negative impact of real activities manipulation through production cost on operating income in the next years. The accrual effect due to earnings management do not affect the cash flows reporting, so that the cash flows reported in the next years reflect the significant negative impact of real activities manipulation through production cost on future operating performance. Our finding that production cost manipulation have negative impact on future *cash flow return on assets* consisten with Gunny (2005) who also finds that real activities manipulation has economically significant negative impact on future operating performance.

The average abnormal value of gain on asset sales (ABNGAIN) has positive and significant impact on operating performance in 1 year ahead, but insignificant impact on operating performance in 2 years and 3 years ahead (hypothesis 2c and 2f are rejected). The possible interpretation of this is cash inflows obtained from gain on asset sales maybe used by the firms for genuine purposes (John and Ofek, 1995 in Hillier, McColgan, and Werema, 2005) such as settling existing debt and financing working capital needs after asset sales, and hence eventually increase operating performance in one period ahead.

Firms size (LNASSET) has positive and significant impact on long-term operating performance, which is consistent with Gunny (2005) which finds that size variable influences future operating performance positively. Growth opportunity (BTM) do not has significant impact on operating performance. These might be due to BTM variable is not a good proxy of growth opportunity for firms in Indonesia. Adam dan Goyal (2007) finds that *market-to-book assets* ratio is the best variable to measure the opportunity to invest for firms, while Hutchinson (2002) uses *market-to-book assets* ratio as proxy of growth oppotunity. The observation period dummy variable (D03 and D04) on operating performance model in 1 year later is significantly positive on both operating performance proxies.

Table 4.4

Summary of Hypothese 2 Examination Results

Panel A : Future Operating Performance Model (OIROA)

Variables	Coefficient Sign Expected	OIROAt+1		OIROAt+2		OIROAt+3	
Intercept	?	0,0154		0,0700		0,0433	
		0,8526		0,4558		0,6459	
ABNSGA	2a. -	-0,0763		-0,0229		-0,0675	
		0,1309		0,6884		0,2405	
ABNProdCost	2b. -	-0,0411		-0,0299		-0,0305	
		0,1235		0,3226		0,3144	
ABNGAIN	2c. -	0,3815	*	0,0930		0,0449	
		0,0520		0,6753		0,8403	
LNASSET	+	-0,0004		-0,0018		0,0006	
		0,9166		0,7001		0,9051	
BTM	-	-0,0001		0,0000		0,0002	
		0,7868		0,9801		0,6178	
OIROA	+	0,7176	***	0,6100	***	0,5486	***
		0,0000		0,0000		0,0000	
D03	?	0,0274	**	0,0221		-0,0257	*
		0,0398		0,1419		0,0890	
D04	?	0,0296	**	-0,0201		-0,0149	
		0,0263		0,1826		0,3246	

Panel B : Future Operating Performance Model (CFROA)

Variables	Coefficient Sign Expected	CFROAt+1		CFROAt+2		CFROAt+3	
Intercept	?	0,0299		-0,1335	*	-0,1416	
		0,7031		0,0980		0,1019	
ABNSGA	2d. -	-0,0717		-0,0702		-0,0534	
		0,1341		0,1535		0,4330	
ABNProdCost	2e. -	-0,0497	**	-0,1466	***	-0,1441	***
		0,0492		0,0000		0,0000	
ABNGAIN	2f. -	0,4418	**	0,0673		0,1451	
		0,0177		0,7239		0,5122	
LNASSET	+	-0,0010		0,0088	**	0,0087	**
		0,7916		0,0273		0,0427	
BTM	-	-0,0001		0,0004		0,0001	
		0,8099		0,3127		0,8403	
OIROA	+	0,7064	***	0,2986	***	0,2766	***
		0,0000		0,0000		0,0000	
D03	?	0,0305	**	-0,0096		0,0027	
		0,0155		0,4581		0,8481	
D04	?	0,0281	**	-0,0115		0,0005	
		0,0263		0,3736		0,9699	

Dependent Variables: Future Operating Performance measured by *Operating Income Return on Assets* (Panel A) and Future Operating Performance measured by *Cash Flow Return on Assets* (Panel B). Independent Variables: ABNSGA = log abnormal value of selling, general, and administrative, ABNProdCost = abnormal value of production cost, ABNGAIN = abnormal value of gain on asset sales, LNASSET = natural logarithm of total asset, BTM = growh opportunities, OIROA = this period operating performance, D03 = 1 for observation year 2003 and 0 if else, D04 = 1 for observation year 2004 and 0 if else.

*** represent statistical significance at α equals to 1%.
** represent statistical significance at α equals to 5%.
* represent statistical significance at α equals to 10%.

5. Conclusion

This research finds that public manufacturing firms in Indonesia do engage in real activities manipulation through selling, general, and administrative expense, production cost, and gain on asset sales. We also finds that real activities manipulation through selling, general, and administrative expense has insignificantly negative impact on future operating performance. Real activities manipulation through production cost has significantly negative impact on future operating performance, only if we use cash flow return on asset. Also, real activities manipulation through gain on asset sales found has significantly positive impact on operating performance in short-term (one-year ahead) and has insignificantly positive impact on operating performance in two and three years later. These are consistent to Hillier, McColgan, dan Werema (2005) which asserts the raising of operating performance after asset sales are done.

There are several limitations of this paper. First, we do not consider stock return of this period variable in predicting the future operating performance. This variable controls any relationship between stock performances with future earnings, as according to Kothari and Sloan (1992) in Gunny (2005), stock price in this period can predict future earnings. Second, we only use two proxies to measure operating performance, that is *operating income return on assets* and *cash flow return on assets*. Palepu, Bernard, and Healy (2004) reveals that in analyzing operating activities of a firm, *gross profit margin, net operating profit margin*, *EBITDA margin,* and *return on assets* proxies can be used.

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2.4 Capital Markets

LIFE AFTER IPO:
FINANCING AND INVESTING ACTIVITIES OF NEW PUBLIC LISTED
FIRMS IN INDONESIA

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Abstract

The objective of this study is to investigate the use of IPO raised fund by new Indonesian public firms. It is found that Indonesian IPO companies utilize their IPO generated fund to finance their future investment, not to enhance their financial flexibility. In addition, instead of reducing their long term debt following the IPOs, these companies use more long term debt in the post-IPO periods. However, the IPO firms in this study rely heavier on the equity financing than debt financing to fund their investment in real assets. Further investigation reveals that there is a positive relationship between the amount of funds raised in the IPOs and the decision to increase leverage at the one year after the IPOs.

1. **Introduction**

An Initial Public Offering (IPO) is commonly perceived as one of the most important milestones in a company's life cycle. The underlying reasons of a company to go public comprise both financial and non-financial aspects. Geddes (2003) identifies that in the context of primary offering, with the intention to finance its future growth, the company can use the generated funds to increase its cash holdings, increase the spending on inventory, Property Plant and Equipment (PPE), capital expenditure, or on R&D. Otherwise, the company can use the proceeds to rebalance their leverage by repaying its long term debt and/or by enhancing its liquidity. In contrast, in the context of secondary offering, another objective is to provide exit strategy for the initial owners. This IPO allows the initial shareholders to sell a portion of

their holdings in the company and utilize the funds generated to diversify their personal portfolio and pursue new ventures at the company level.

Reflecting the importance of this going public decision of a company, there has been numerous empirical literatures focusing prominently on IPO. However, these literatures have surprisingly ignored the investigation to the actual utilization of proceeds from this IPO. As an alternative, the majority of them discuss about the under pricing, the long-run performance, and the time-clustering of IPOs (Ibbotson, Sindelar, & Ritter, 1994; Jenkinson & Ljungqvist, 2001; or Ritter, 2003). In addition, most corporate finance literatures limit themselves to describing the institutional aspects of this decision, providing only a few remarks on the investigation of the actual utilization of the generated IPO funds. As a matter of fact, this information is very useful for the investors to make optimal investment decisions because this particular information can enable them to have a better view on how the company actually utilizes their money to increase the shareholder's wealth.

Moreover, this growing significance in the decision of a company to go public can be considered as particularly high in Indonesia. As the evidence, according to the data from the Indonesia Stock Exchange (IDX), the ratio of market capitalization to the Gross Domestic Products (GDP) in Indonesia is relatively low (14.7% in 2002, 29.4% in 2005, 37% in 2006, and 53% in 2007) being compared to other Asian countries like Malaysia and Singapore, which ratios have exceeded 200%.[81] However, it can be seen that this ratio keeps increasing from year to year, which depicts the growing potential of capital markets in Indonesia that is very considerable. Accordingly, capital markets

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[81] Source: Danareksa Research Institute, *Analisa Faktor Pencetus Voluntarily Delisting di Pasar Modal Indonesia* 2007. Retrieved December 27, 2007, from http://www.danareksa-research.com

have recently become an important source of financing for companies in Indonesia and many investors have perceived capital markets as an attractive place to put their money in. This positive signal means that capital markets can already give a contribution to the economic growth in Indonesia.

This study looks at the changes in the financial flexibility and investment following IPOs. It is found that Indonesian IPO companies utilize their IPO generated fund to finance their future investment, not to enhance their financial flexibility. In addition, instead of reducing their long term debt following the IPOs, these companies even use more long term debt in the post-IPO periods. Further investigation reveals that there is a positive relationship between the amount of funds raised in the IPOs and the decision to increase leverage at the one year after the IPOs. Finally, it is found that the IPO firms in this study rely heavier on the equity financing than debt financing to fund their investment in real assets. The results of this part of the study supports the findings of Mikkelson et al. (1997) and Kim and Weisbach (2006) that the motive for the companies to go IPO is to raise capital for investment.

The remainder of this paper is organized as follows. Section Two contains the data used in this study. Section Three reports the empirical results on the use of IPO raised funds of new public firms in Indonesia. Section Four discusses the investing activities of IPO firms after becoming public firms. Section Five documents the relationship between the amount of funds raised in the IPOs and the decision to increase leverage at the one year after the IPOs. The last section offers the final conclusions on this study.

2. Data

The initial samples in this study consist of all firms that conducted Initial Public

Offering within year 2000 to 2005 at the Indonesia Stock Exchange (IDX).

The IDX Annual Statistics publication was the source to collect the initial

sample. There were 96 firms conducted IPOs during the sample periods of

this study. To be included in the final sample, those 96 IPO firms have to meet

several requirements, as follows:

1. Not companies classified into finance industry. Thus, 28 IPO companies
   are excluded
   due to this requirement.
2. Not state-owned enterprises (SOEs). This study limits to firms that
   conducted primary
   offerings only. During the sample period of this study, Indonesian
   government sold 5 SOEs to public as part of privatization program, among
   other things, for state budget deficit relief following the 1997 Asian Financial
   Crisis.
3. Have a complete set of financial data required to estimate Working Capital
   Requirements (WCR), Gross Property, Plant, and Equipment (PPE), Net
   Liquid Balance (NLB), Long Term Debt (Leverage), and Growth
   Opportunities, and Total Assets at the 1 year before and after the IPOs. Ten
   IPO companies were further eliminated since they do not have complete
   data available to be further used in this study.

In total, there are 43 of IPO firms excluded from the final sample. This leaves

the final sample with 53 IPO companies from 8 industry sectors, as depicted

in the Table 1 below:

Table 1
IPO Companies and Industry Sectors

Industry Sectors	2000	2001	2002	2003	2004	2005	Total
Agriculture	1	0	1	0	1	0	3
Mining	0	1	3	0	0	0	4
Basic Industry and Chemicals	2	4	1	0	1	0	8
Miscellaneous Industry	1	1	1	1	1	1	6
Consumer Goods Industry	0	1	0	0	0	0	1
Property, Real Estate & Building Construction	3	3	0	0	0	0	6

Infrastructure, Utilities & Transportation	0	1	0	1	0	2	4
Trade, Services & Investment	0	10	7	0	3	1	21
Total	7	21	13	2	6	4	53

Table 1 above shows that the final samples of this study mostly consist of firms from Trade, Services, & Investment sector. This sector counts for more than 39% (21 out of 53 IPOs) of the total sample. The smallest numbers of IPOs come from the Agriculture and Consumer Goods Industry, which are only around 2% (1 out of 53 IPOs). Moreover, the final samples in this study are dominated by IPOs done in the period of 2001, which are also made up of more than 39% (21 out of 53 IPOs) of the total IPOs across the sample periods. Year 2003, however, is the period with the least number in the sample. Only around 4% (2 out of 53 IPOs) comes from year 2003.

Table 2
Descriptive Statistics

	Mean	Min.	Max.	Std. Dev.
ROA	7%	-124%	254%	39%
Leverage	1.57	0.00	69.87	9.59
Size (IDR billion)	326	10	6,474	937

ROA is calculated by dividing a company's annual net income by its total assets, in a year before IPO. Leverage is calculated by dividing a company's long term debt by its equity, in a year before IPO. Size is the value of the total assets prior to the IPO year, expressed in Indonesian Rupiah (IDR billion).

Table 2 above shows that IPO companies in this study one year before going public, on average, book for 7% in their ROA, with the maximum and minimum of 254% and -124%, respectively. PT Multistrada Arah Sarana Tbk was the company that had the highest ROA prior to its IPO in 2005. On the other hand, PT Metamedia Technologies Tbk was the company with the lowest ROA prior to its IPO in 2001. Furthermore, table 2 above also shows that the sample IPO companies have varying levels of leverage. The average

leverage of the sample IPO companies is 1.57 with the maximum and minimum of 69.87 and 0, respectively. The company that is highly levered was PT Aneka Kemasindo Utama Tbk, prior to its IPO in 2004. In contrast, there were four companies with zero leverage and all of them took the IPO in 2001.

It can also been seen on Table 2 above that the average size of the sample firms is around IDR 325 billions with maximum and minimum size of approximately IDR 6,474 billions and IDR 10 billions, respectively. The company that has the largest size was PT Excelcomindo Pratama Tbk and the one with the smallest size was PT Integrasi Teknologi Tbk.

To investigate the use of IPO raised funds by Indonesian firms, this study needs the data from the 53 IPO firms in the final sample to calculate their Working Capital Requirements (WCR), Gross Property, Plant, and Equipment (PPE), Net Liquid Balance (NLB) and Long Term Debt (Leverage) one year before and one year after the IPO. The formulas to calculate those variables are as follow:

PPE   = Gross Property, Plant, and Equipment.
WCR   = Spontaneous Operating Assets – Spontaneous Operating
Liabilities
                = (Accounts Receivable + Inventory + Prepaids) – (Accounts
Payable +
                   Accruals).
NLB   = Cash and Cash Equivalents – Short Term Debt.
                = (Cash + Marketable Securities) – (Notes Payable + Current
Maturities
                   of Long Term Debt).
Leverage   = Long Term Debt / Total Assets.

As in Kim and Weisbach (2005, 2006), the four variables above are measured using the change in each variable normalized by total assets one year prior to the IPO. The formulas are as follow:

$\{V_{T+1} - V_{T-1}\}$ / total assets$_{T-1}$

Where,

V = Variable being measured = WCR, PPE, NLB, or LTD,

T = The IPO year.

3. How Do Indonesian Firms Use Their IPO Raised Funds?

It is mentioned in the Introduction section that the main objective of this study was to empirically examine the motivations of the Indonesian companies in conducting IPO. To investigate motives for Indonesian companies to go public, this study compared the changes in Working Capital Requirement (WCR), Gross Plant, Property and Equipment (PPE), Net Liquid Balance (NLB) and Leverage of IPO firms from one year prior the IPO year to one year after the IPO year. Financial flexibility is represented by NLB and Leverage, while Investment is proxied by PPE and WCR.

As noted by Kim and Weisbach (2005), raising capital has been an important motive in the going public decision of a company. The IPO funds, as a source of equity capital, can be utilized in two forms, first to finance its future growth, and/or secondly, to increase financial flexibility as in enhancing liquidity and in reducing debt. Mikkelson, Partch, & Shah (1997) provide evidence that one of the motivation of a company to go public is to raise equity capital to finance future growth. They documented that US IPOs are generally followed by a large growth in assets. Using a sample of 16,958 IPOs from 38 countries between 1990 and 2003, Kim & Weisbach (2006) also find that the equity capital raised from IPO is used for future investment.

In contrast, a study carried out by Pagano, Panetta, & Zingales (1998) demonstrate that the motivation for Italian companies to go public is not to finance future investments and growth, but rather to rebalance their leverage after a period of high investment and growth. They argue that an Italian

company to go public is to rebalance its leverage in order to increase its financial flexibility. On the other hand, enhancing liquidity is as important as reducing debt in a company's capital structure. Companies may have less debt in their capital structure, but the ability to fulfill its financial obligation when it dues depend on whether or not it has sufficient cash and cash equivalents. To ensure the avoidance of future financial distress, IPO companies may use the raised fund to fortify their liquidity. Regardless the choice of debt reduction or liquidity enhancement, IPO companies can get benefit of avoiding future financial distress, by increasing its financial flexibility.

Table 3
Kolmogorov-Smirnov Tests on the Normality Assumptions on the Changes in Leverage, PPE, NLB and WCR

Variables	*K-S statistics*	p-value
ΔWCR	2.938	0.000
Δ PPE	1.390	0.021
Δ NLB	2.882	0.000
Δ Leverage	2.468	0.000

The model is $\{V_{T+t} - V_{T-1}\}$ / total assets$_{T-1}$. V = variable being measured. WCR is the Working Capital Requirement of the IPO company. PPE is the Gross Property, Plant, and Equipment. NLB is the Net Liquid Balance. Leverage is the amount of Long Term Debt. Δ here represents the difference of the aforementioned variables' figures between one year before and one year after the IPO. The changes in the variables are scaled with total assets at the one year before each IPO.

Table 3 above presents the results of Kolmogorov-Smirnov (K-S) test. This goodness of fit test is performed to determine the normality assumptions of the variables used in this study. As can be seen from the table 3 above, the test has consistently and significantly rejected the null hypothesis at least at the 5% level that the utilization of IPO funds in WCR, PPE, NLB, and Long Term Debt are normally distributed. Accordingly, this result puts forward that one cannot put too much faith on the results from parametric tests, the paired-sample t-test, in this study due to violation of the normality assumption on the data. To overcome that normality problem, a non parametric test, the Binomial test, is employed to gauge the differences in the

variable prior and after IPO. For the shake of completeness, however, the results of the t-tests are also reported below.

Table 4
Univariate Tests on The Changes on WCR, PPE, NLB and Leverage

Variables	Paired-Sample t-test		Binomial Test		
	Mean Difference	t-statistics (p-value)	Observed Proportion		p-value
			Decrease	Increase	
Δ WCR	0.360	2.011 (0.05)	0.19	0.81	0.00
Δ PPE	0.354	4.218 (0.00)	0.25	0.75	0.00
Δ NLB	-0.145	-0.876 (0.38)	0.45	0.55	0.29
Δ Leverage	0.088	1.316 (0.19)	0.34	0.66	0.01

The model is $\{V_{T+t} - V_{T-1}\}$ / total assets$_{T-1}$. V = variable being measured = WCR, PPE, NLB, Leverage. .WCR is the Working Capital Requirement of the IPO company. PPE is the Gross Property, Plant, and Equipment. NLB is the Net Liquid Balance. Leverage is the amount of Long Term Debt. Δ here represents the difference of the aforementioned variables' figures between one year before and one year after the IPO.

Table 4 above presents the results of the t-tests and the binomial tests on the changes in the financial flexibility (NLB and Leverage) and in the Investment (WCR and PPE) one year after the firms conduct their IPOs. Since the violation of the normality assumption on the data, the results of the binomial tests are the basis for the discussions in this section.

Looking at the observed proportion on Table 4 above, the utilization of IPO funds to finance future growth as reflected in the short term investment of Working Capital Requirement (WCR) and in the Property, Plant, and Equipment (PPE) have higher probabilities to have positive values rather than negative values. The p-values for those two variables are significant at less than the 1% level. This indicates strong evidence that IPO companies use their IPO generated fund to finance future growth, both in the forms of WCR and PPE.

In contrast, the utilization of IPO funds to enhance financial flexibility as reflected in the enhancement of Net Liquid Balance (NLB) is not significant at the conventional levels. This indicates that, on average, IPO companies do not utilize their generated IPO fund to enhance their NLBs following the IPOs. When it comes to changes in Long Term Debt following IPOs, an unexpected result emerges. Instead of reduction in Long Term Debt following IPOs, Indonesian firms experience an increase in the Leverage one year after their IPOs . This increase is significant at the 1% levels. This indicates that IPO companies do not seem to use their generated IPO fund to enhance financial flexibility in the form of reducing their long term debt for the purpose of rebalancing their leverage; instead, they rely heavier on the long term debt financing for funding investing activities following their IPOs.

The results of the univariate tests in this study suggest that Indonesian IPO companies utilize their IPO generated fund to finance their future investment, not to enhance their financial flexibility. In addition, instead of reducing their long term debt following the IPOs, these companies even use more long term debt in the post-IPO periods.

4 What are The Factors Affect New Public Listed Firms in Their Investing Decision Following IPOs?

In running their firms on day to day operations, managers may see some potential threat and opportunities to the growth of their firms. Myers and Majluf (1984) argue that in the presence of asymmetric information and limited internally generated funds, a firm may pass up on profitable investment opportunities because of the costs associated with raising external finance. Investigating the investing activities of firms following their IPOs, however, provides a unique

opportunity on the investment behaviour of firms when there is virtually no capital rationing and therefore, no need to raise external financing.

Myers (1977) implies that a firm's assets consists its existing assets and future assets. Although an asset has been existed, it may need a replacement investment to maintain its production power. On the other hand, a future assets calls for either expansion investment if it is in the same industry or a diversification investment if it is in other industries. To further study the investment behaviour of IPO firms following their IPOs, a multiple regression model is employed as follows:

$$\Delta \text{PPE}_i = \beta_0 + \beta_1 \text{Lag PPE}_i + \beta_2 \text{Growth}_i + \beta_3 \Delta \text{Leverage}_i + \beta_4 \text{IPO Fund}_i + \varepsilon_i$$

Where,

ΔPPE_i is the difference in the Gross PPE of an IPO firm i between one year before and one year after the IPO and it is scaled by total asset at the one year before the IPO year. Lag PPE_i the Gross PPE of an IPO firm i at the one year before the IPO year it is scaled by total asset at the one year before the IPO year. Growth_i is the growth opportunity of an IPO firm i, this variable is proxied by the MBA Ratio of a company at the same industry and has the closest amount of total assets with the IPO firm at the one year before the IPO year. IPO Fund_i is total amount raised during an IPO of an IPO firm i. ε_i is an error term. The results of the multiple regression analysis can be seen on Table 6 below:

It can be seen on Table 6 below that the magnitude of pre-IPO firm's PPE has a positive and highly significant influence on a subsequent increase

in PPE following an IPO. The magnitude of the coefficient (0.612) is the largest among the other coefficients. This finding signifies the sensitivity of the investment activities of the post-IPO era to the needs of the firms to rejuvenate their existing PPEs.

Table 6
Relation among changes in PPE, Lag PPE, Growth, Changes in Leverage,
IPO Fund
on 53 IPOs for the Periods of 2000-2005

Independent Variables	Coefficients	t-statistics	p-value (1-tailed)	VIF
Constant	-0.194	-3.23	0.00	-
Lag PPE	0.612	4.74	0.00	1.25
Growth	0.001	5.45	0.00	1.00
Δ Leverage	0.282	2.24	0.02	1.71
IPO Fund	0.391	5.31	0.00	1.79
F-statistics (p-value)	40.64 (0.00)			
Adj. R^2	0.75			

$\Delta PPE_i = \beta_0 + \beta_1 Lag PPE_i + \beta_2 Growth_i + \beta_3 \Delta Leverage_i + \beta_4 IPO Fund_i + \epsilon_i$ Where ΔPPE_i is the difference in the Gross PPE of an IPO firm i between one year before and one year after the IPO and it is scaled by total asset at the one year before the IPO year. $Lag PPE_i$ the Gross PPE of an IPO firm i at the one year before the IPO year and it is scaled by total asset at the one year before the IPO year. $Growth_i$ is the growth opportunity of an IPO firm i, this variable is proxied by the MBA Ratio of a company at the same industry and has the closest amount of total assets with the IPO firm at the one year before the IPO year. $IPO Fund_i$ is total amount raised during an IPO of an IPO firm i. ϵ_i is an error term. The t-statistics, in parentheses, use White's (1980) heteroscedasticity-consistent standard errors. R^2 is the coefficient of determination, adjusted for degrees of freedom. VIF is equal to 1/(1-R2), where R2 is estimated from the regression of an independent variable on all other independent variables. The threshold here is that the data is hampered by Multi-collinearity problems if the VIF value is above 5.

Besides replacement of its existing PPEs, IPO Firms may also need the IPO funds to invest in their growth opportunities of their respective industries. Table 6 above shows that the growth opportunities in each corresponding industry also have a positive influence on IPO firms' decisions for subsequent investment following their IPOs. Although the magnitude of the coefficient (0.001) is the least among the other coefficients. this finding, nonetheless, signifies the decision of the IPO firms to invest in their growth opportunities after going public. This findings also confirm the findings in Chemmanur and Fulgieri (1999), Stoughton, Wong and Zechner (2001), and Maksimovic and Pichler (2001) that, based on the information asymmetric and costly information gathering arguments, firms from particular industries go public because they discover new technology, which leads toward increases in productivity.

The other two variables in the model are the amount of new equity and new debt funding and represent additional sources of financing besides internally generated funds. These funds are the additional funds which were raised during and after the IPOs and, therefore, only available if the firms just went public before. Table 6 shows that the coefficient of the IPO Fund is positive and highly significant at the 1% level. Similarly, the coefficient of the change in the Leverage is also positive and significant at the 5% level. Judging from the magnitude of the both coefficients (0.391 and 0.282 respectively), The IPO firms in this study rely heavier on the equity financing than debt financing to fund their investment in real assets.

The results of the univariate and multivariate analyses on this study then, supports the findings of Mikkelson et al. (1997) who documented that US IPOs are generally followed by a large growth in assets. While Mikkelson et al. (1997) contains no explicit linkage between the companies' growth to the capital raising involved with the IPO, this finding is at least suggestive of the view that companies go public so that they can raise public equity capital to finance growth. The results of this study also support Kim and Weisbach (2006) who examine that one motive for the IPO around the world is to raise capital for investment. The findings in this study, on the other hand, are in contrast with the motivation of Italian IPO companies to rebalance their leverage after a period of high investment and growth as in Pagano, Panetta, and Zingales (1998).

5. Why Does Leverage Increase after IPOs?
Based on the findings mentioned in the previous section, Indonesian IPO firms, on average, increase their leverage following their IPOs. The leverage

in this study is measured relative to their total assets at the one year before

IPOs. Some new investments might need financing from equity, debt, or both.

The funding composition of this new investment depends on each company's

capital structure. Nobel winner Merton Miller and Franco Modigliani (1958)

demonstrate formally that in a perfect capital market the value of a firm

depends only on its investment policy and not on its financing policy. In the

real world, however, there are some factors that influence a fim's capital

structure policy. Several theories have been advanced to propose those

factors and their impacts on a firm's leverage have been tested empirically

both in the US and International settings (Harris and Raviv, 1991; Rajan and

Zingales, 1995; Shyam-Sunder and Myers, 1999; Graham and Harvey,

2001).[82]

To investigate further on the relationship between changes in leverage

and the amount of funding raised in IPOs, a multiple regression analysis is

employed as follows:

$$\Delta \text{Leverage}_i = \beta_0 + \beta_1 \text{Size}_i + \beta_2 \text{Profitability}_i + \beta_3 \text{Growth}_i + \beta_4 \text{IPO Fund}_i + \varepsilon_i;$$

Where,

$\Delta \text{Leverage}_i$ is the difference in Long Term Debt of an IPO firm i between one

year before and one year after the IPO and it is scaled by total asset at the

one year before the IPO year. Size_i is the natural log of total assets of an IPO

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[82] The most notable theories on factors affecting firm's target leverage are the ones based on the trade-off theory and the pecking order theory.

firm i at the one year before the IPO year. Profitability$_i$ is the ROA of an IPO firm i for one year before the IPO year. Growth$_i$ is the growth opportunity of an IPO firm i, this variable is proxied by the Market to Book Asset ratio (MBA) of a company at the same industry and has the closest amount of total assets with the IPO firm at the one year before the IPO year. MBA Ratio = Market Assets / Book Assets = {(share price × shares outstanding) + preferred stock + debt in current liabilities + long-term debt – deferred taxes and investment tax credit} / Book value of assets. IPO Fund$_i$ is total amount raised during an IPO of an IPO firm i. ε_i is an error term. The results of the multiple regression analysis can be seen on Table 5 below.

Table 5
Relation among Changes in Leverage, Size, Profitability, Growth and IPO Fund
on 53 IPOs for the Periods of 2000-2005

Independent Variables	Coefficients	t-statistics	p-value (1-tailed)	VIF
Constant	-4.231	-3.04	0.00	-
Size	0.163	3.04	0.00	1.11
Profitability	-0.148	-2.89	0.01	1.07
Growth	-0.001	-0.22	0.41	1.00
IPO Fund	0.342	1.77	0.04	1.04
F-statistics (p-value)	12.56 (0.00)			
Adj. R^2	0.47			

Δ Leverage$_i$ is the difference in Long Term Debt of the IPO firm between one year before and one year after the IPO scaled by total asset at the one year before the IPO year. Size$_i$ is the natural log of total assets of the IPO firm at the one year before the IPO year. Profitability$_i$ is the ROA of the IPO firm for one year before the IPO year. Growth$_i$ is the growth opportunity of an IPO firm, this variable is proxied by the Market to Book Asset Ratio (MBA) of a company at the same industry and has the closest amount of total assets with the IPO firm at the one year before the IPO year. IPO Fund$_i$ is total amount raised during the IPO. ε_i; is an error term. The t-statistics, in parentheses, use White's (1980) heteroscedasticity-consistent standard errors. R^2 is the coefficient of determination, adjusted for degrees of freedom. VIF is equal to $1/(1-R^2)$, where R^2 is estimated from the regression of an independent variable on all other independent variables. The threshold here is that the data is hampered by Multi-collinearity problems if the VIF value is above 5.

It can be seen on Table 5 above that there is a positive relationship between the amount of funds raised in the IPOs and the decision to increase leverage at the one year after the IPOs. This relationship is significant at the 5% level.

As mentioned earlier, some new investments might need financing from equity, debt, or both. Assuming that, on average, the new investment calls for funding from the combination of equity and debt. After raising external equity funding through IPO, these IPO companies also issue new debt afterwards.

IPO raised funds might also be used as a safety cushion and this new safety net attracts lenders to extend credits for the companies since they believe that by having more cash, these companies have increased their level of credit worthiness in the debt engagement. This leads to these companies having a greater bargaining power with banks and other lenders in issuing new debt.

To elaborate more, a potential problem with bank loans is that banks can extract rents from their privileged information about the credit worthiness of their customers. As highlighted by Rajan (1992), by gaining access to the stock market and disseminating information to the generality of investors, a company elicits outside competition to its lender and ensures a lower cost of credit, a larger supply of external finance, or both. Moreover, having a prestigious status as public companies might also help in obtaining new debt from lenders.

As stated by Pagano, Panetta, and Zingales (1998), the most cited benefit of going public is probably the increased likelihood of those companies to gain more access to capital markets both equity and debt markets. In other words, the status as public companies can be said to overcome the borrowing constraints of the companies. Hence, firms go public to raise equity financing and, afterward, increase their debt financing following the IPO. These IPO

companies must be fund-hungry companies that seek for plenty of fresh funds to fuel their future investment.

Based on the trade-off theory of the capital structure, a firm's target leverage is positively influenced by taxes and negatively influenced by costs of financial distress and agency conflicts. Warner (1977) and Ang, Chua and McConnel (1982) find that costs of financial distress are higher for smaller firms. With regard to probability of going into bankruptcy state, Titman and Wessels (1988) argue that larger firms tend to fail less often due to their diversification nature of their operations. Diversification may also go hand in hand with more stable cash flows as implied by Jensen (1986) and Easterbrook (1984). Accordingly, the theory predicts a positive relationship between size and leverage. Table 5 above shows that there is a direct relationship between Leverage and Size. This positive relationship is significant at less than the 1% level.

The trade-off theory also prescribes a positive influence of taxes and a negative influence of financial distress costs and agency conflicts on a firm's target leverage. Profitable firms have lower probability of going into bankruptcy state. With tax deductibility feature of debt services, profitable firms also find themselves in the position to take fully advantage of that benefit. In addition, higher debt may control the agency problems by forcing managers to pay out more of the firm's excess cash as suggested by Jensen and Meckling (1976), Easterbrook (1984), and Jensen (1986). Therefore, the theory suggests a positive relationship between leverage and profitability.

With regard to the relationship between leverage and profitability of Indonesian IPO firms in this study, Table 5 shows a negative and significant

relationship between profitability at the one year before IPOs and the decision to seek more debt financing at the one year after their IPOs .This result is in conflict with the one predicted by the trade-off theory. The pecking order theory, on the other hand, argues that firms prefer raising capital, first from retained earnings, second from borrowing, and finally from issuing new equity. This order of preferences is due to the direct and indirect costs of floating new shares in the presence of information asymmetries. Compare with less profitable firms, highly profitable firms is more likely to have its investment needs less than its retained earnings. Consequently, the pecking order theory prescribes a negative relationship between leverage and profitability. The finding in this study, therefore, more in line with the pecking order theory than the trade-off theory of capital structure.

In contrast with the other variables, Table 5 shows that there is no significant relationship between growth opportunities and leverage. Myers (1977) demonstrate that the market value of a firm depend on the value of its assets in place and present value of growth opportunities facing by the firm. A growth firm has its market value consists mainly from its present value of growth opportunities. Accordingly, the theory predicts that firms with higher growth carry less debt in their capital structure because they face less incentive to reduce conflicts between stockholder-bondholder due to underinvestment and asset substitution effects (Galai and Masulis, 1976; Jensen and Meckling, 1976). Moreover, Jensen (1986) argues that firms with higher growth opportunities have less need for the disciplining effect of fixed payments to control their free cash flows. Consequently, it is predicted that there is a negative relationship between growth opportunity and leverage.

Previous empirical studies, however, find that results on the relationship between growth opportunities and leverage are mixed, at best. A study conducted by Titman and Wessels (1988) find a negative relationship, while by Rajan and Zingales (1995) find an opposite results that the relationship is positive report a positive relationship between leverage and growth. The finding on this study that there is no relationship between growth opportunities and leverage may the results of the negative and positive effects of growth opportunities on the leverage cancel each other out.

6. Concluding Remarks

The objective of this study is to empirically examine the motivations of the Indonesian companies in conducting IPO. It is found that Indonesian IPO companies utilize their IPO generated fund to finance their future investment, not to enhance their financial flexibility. In addition, instead of reducing their long term debt following the IPOs, these companies even use more long term debt in the post-IPO periods. However, the IPO firms in this study rely heavier on the equity financing than debt financing to fund their investment in real assets. The results of this part of the study supports the findings of Mikkelson et al. (1997) and Kim and Weisbach (2006) that the motive for the companies to go IPO is to raise capital for investment.

Further investigation reveals that that there is a positive relationship between the amount of funds raised in the IPOs and the decision to increase leverage at the one year after the IPOs. The increase in leverage might be a necessity for keeping capital within an optimal range in the face of new post-IPO investment activities. Having a prestigious status as public companies

might help in obtaining new debt from lenders. IPO raised funds might also

be used as a safety cushion and this new safety net attracts lenders to extend

credits for the companies since they believe that by having more cash. These

lead to these companies having a greater bargaining power with banks and

other lenders in issuing new debt.

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MARKET REACTION TO THE ANNOUNCEMENT OF RELATED PARTY TRANSACTIONS

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Abstract

This study investigates stock market reactions to firms' announcements of related party transactions ("RPT") in Indonesia. RPT can result in either positive or negative stock price reaction. The reaction is positive when the market expects that RPT is more efficient than Non-RPT while it is negative when the market perceives RPT as a way to expropriate wealth of non-controlling shareholders. This study also investigates whether the effect of RPT on stock market reaction depends on corporate governance practice, ownership structure, and disclosure level. Empirical study on corporate announcements in 2005 – 2007 finds a more positive reaction toward RPT than non-RPT, suggesting that in general RPT provides a more efficient way to conduct transaction than non-RPT. The study also finds that higher disclosure level magnifies the positive stock price reaction toward RPT.

Keywords: related party transaction, market reaction, corporate governance, ownership structure, disclosure level

1. Introduction

The extent of stock market growth in a country depends on the existance of equitable treatment of all shareholders, including minority and foreign shareholders, regardless of their ownership level. The practice of equitable treatment of all shareholders is one of the principles of corporate governance (*Organization for Economic Co-operation and Development* (OECD), 2004).

In Indonesia, and in several countries in Asia, many listed companies have ownership structures that are still concentrated. Majority shareholder owns a large portion of company's outstanding shares and have controlling interest over the company. On the other hand, the level of public ownership is relatively low. Further, majority shareholder typically also controls other firms and this condition increases potential occurance of related party transactions ("RPT"). RPT under IAS 24, is *".. a transfer of resources, services, or obligations between related parties, regardless of whether a price is charged."* (IAS 24, par. 9).

RPT can have a positive or negative impact on firm performance (Gordon, Henry and Palia, 2003). The efficient transaction hypothesis. suggests that RPT can fulfill basic economic need of a company by lowering cost of transaction so that company can be more efficient. RPT has its own positive influence in the day-to-day business operation and to the general economy. Assurance to the occurrence of RPT is relatively high compared to those of third party transactions. Further, since the transaction is under common control, transaction cost of RPT is also lower than those of third party transactions. Having these two reasons, it is no surprise that companies, especially those under common control, commonly conduct RPT.

On the other hand, the conflict of interest hypothesis pertain to RPT as transactions with the tendency toward expropriation of minority shaholders' wealth. This kind of RPT usually occur in companies with low corporate governance mechanism and low adjusted stock return. Consistent with the hypothesis, McCahery and Vermeulen (2006) conclude that even though RPT can play a positive role for companies, fraudulent and abusive RPT may exist whereby controlling shareholders' wealth is maximized at the expense of minority shareholders. A study by Johnson, et.al. (2000) find that in companies with concentrated ownership, majority shareholder can expropriate the wealth of minority shareholders in many ways. They can gain additional cash by selling assets, goods, or services to the company trough RPT at prices above the market prices; they can obtain loans with agreeable terms; they can transfer assets between companies under their control; and at worse, they can dilute the ownership of minority interest.

Consistent with these two opposing views, Cheung, et.al. (2006) classify RPT into: i) transactions that are a priori likely to result in expropriation of company's minority shareholders, ii) transactions likely to benefit company's minority shareholders, and iii) transactions that could have strategic rationals and perhaps are not expropriation.

Transactions between related parties that include asset acquitistions, assets sales, equity sales, trading relationships, and cash payment are viewed as transactions with potential effect to result in an expropriation of the wealth of minority shareholders. Transactions, such as cash receipts and subsidiary relationships are viewed as the opposite: they most likely will benefit the minority shareholders. Other transactions, such as takeover offers and joint ventures, joint venture stake acquisitions, and joint venture sales are classified as strategic transactions that may not have expropriation effect.

The expropriation view of RPT is supported by some studies that find a negative market reaction to the announcement of related party transactions. A study by Bae, Kang, Kim (2002) in Korea empirically shows a negative reaction. In Korea, chaebols (business groups) are very dominant in the economy and some public companies belong to the chaebols, which typically are controlled by certain families. Furthermore, Bae, Kang, Kim (2002) find that acquisition between companies under the same chaebol will decrease the market prices of the acquirees, which are primarily owned by minority shareholders; while evidence also shows an increase in the value of acquirors which are mostly owned by majority shareholders.

In Hongkong, a study by Cheung, et.al. (2006) also find a significantly negative excess return on RPT announcements relative to Non-RPT announcements. This study provides direct support on the existence of expropriation of minority shareholders' wealth. Minority shareholders' wealth decreases significantly when companies decide to have RPTs.

In Indonesia, empirical studies on RPT are rare. Studies by Masturoh (2000) and Santoso (2003) evaluate market reaction to the announcement of internal

acquisitions, especially those with divergence between control and cash-flow rights. Disparity between cash-flow rights and control rights motivates controlling shareholders to make acquisitions that increase their own wealth at the expense of minority shareholders. Masturoh (2000) find a negative abnormal return for firms with internal acquisition, while Santoso (2003) find evidence of negative cumulative abnormal return for the acquirer.

A later study by Utama (2006) focuses on RPT in connection with investment decisions. This study finds a weaker market reaction to the announcements of RPT compared to those of non-RPT. This evidence show that market views RPT as more vulnerable to the possibility of expropriation of minority shareholders' wealth. It also finds a weaker market reaction to the announcement of firms belonging to a business group than independent firms.

As mentioned earlier, Gordon, Henry, and Palia (2003) view RPT as transactions that can actually result in two different market reactions: negative and positive. Negative market reaction to the announcement of RPT support the conlict of interest hypotheses of RPT while positive reaction of RPT announcement is possible under the efficient transaction hypotheses of RPT: The study summarizes that market views RPT as a more efficient transaction than non-RPTs; reducing the need for more monitoring.

To mitigate expropriation and negative impact of RPT, the capital market regulatory body in Indonesia, i.e. Badan Pengawas Pasar Modal – Lembaga Keuangan or Bapepam-LK, issues several regulations to protect the interest of minority and other shareholders. Such regulations include those on disclosures and corporate governance.

Bapepam Regulation No. X.K.1 requires all listed companies in Indonesia to report every transactions (including RPT) that materially affects the company's value, including investment decisions. While regulation No. IX.E.1 about conflict of interest transactions requires certain transactions to have approval from minority shareholders, including the disclosure of the transactions. Further, regulaion No. VIII.G.7 provides guidance as to how listed companies should present and disclose RPT. Other regulatory body, the Indonesian Chartered Accountants, issues Indonesian Financial Accounting Standard (PSAK) No. 7 about disclosure of related parties. This standard requires listed companies to disclose related parties and transactions among them. Bapepam-LK also requires listed companies to have at least 30% of members of the supervisory board to be independent commissioners and to establish audit committee.

With those regulation already in effect in Indonesia, the most important question is whether or not they are sufficient to address the negative impact of RPT? How about their implementation and effectiveness?

In addition to that, further study is warranted in the following area:

- Studies in Indonesia only cover investment decisions, while RPT involve more than investment decisions.
- The effect of disclosure on RPT, corporate governance, and ownership structure on market reaction toward RPT announcement.

The result of the study can also be used to evaluate implementation and effectiveness of RPT regulation.

Therefore, the objectives of the study are: i) to evaluate the implementation and effectiveness of RPT regulation; and ii) to investigate stock market reactions to firms'

announcements RPT in Indonesia and if the reaction depends on the level of RPT disclosure, corporate governance, and ownership structure.

2. Research Design and Hypothesis Development

Evaluation of the implementation and effectiveness of RPT regulation in Indonesia is done by having a Focus Group Discussion (FGD). This FGD involves regulatory body (the Bapepam-LK), experts in capital markets, experts in corporate governance, and academicians.

The FGD is based on instrument developed by the OECD to measure the application of corporate governance principles, especially its adoption to regulation, in relation to the protection of minority shareholders. Furthermore, other relevant regulations on information and public disclosure are gathered in order to help answering the questionnaire. We also did some research to evaluate similar regulations in neighboring countries, such as Malaysia, Thailand, Singapore, Hong Kong, the Philippines, and South Korea, and their applications.

Analysis on the relationship of RPT and market reaction is conducted by using several variables, i.e. market reaction, RPT classifications, corporate governance practices, RPT disclosures, and ownership structures. Market reaction is measured by Cummulative Abnormal Return (CAR) around announcement dates for 3 days event windows (day -1 to day +1). Market adjusted return is used in calculating the daily abnormal return. Announcements of material transactions are classified into those of RPT and those of non-RPT. A dummy variable (DRPT) takes the value of one if the announcement involves RPT, else zero. Corporate governance practice is measured by CG Score developed by the Indonesian Institute for Corporate Directorship (IICD). The score is based on an instrument covering five components of

Corporate Governance (CG) principles suggested by the Organization of Economic Cooperation and Development (OECD). The instrument consists of 117 items. Each item is rated 'poor' (scored one), 'fair' (scored two), and 'good' (scored three) depending on whether the item is properly practiced based on information publicly disclosed in 2005. The total CG score is calculated as a weighted average of the score of each component. RPT disclosure is represented by the availability of value of transaction in the announcement. A dummy variable (DDISCL) takes the value of one if the announcement provides information on the value of the transaction, else zero. Ownership structure is measured by the percentage of majority ownership, management (board of directors) ownership, and foreign ownership. As a control variable, the study employs company size,. measured by the log of firm's market capitalisation.

Hyptheses development

As discussed earlier, RPT has two contradictive nature. It can be viewed as transaction with expropriation potentials resulting in negative market reaction, but it can also be viewed as an efficient transaction that can lower costs, resulting in postive market reaction. Because of that, market reaction to RPT announcement can be either positive or negative:

H1: RPT announcement can have a positive or negative relation to the cummulative abnormal return

Further, the study expects that market reaction to the announcement of RPT is affected by the practice of corporate governance in the company, the level of disclosure in each announcement, and the ownership structure. If the practice of corporate governance is good, it will enhance supervision and monitoring of RPT, so

618

that at the end, RPT that actually occurrs more likely is RPT that increases effectiveness and efficiency of the firm. Therefore, higher CG Score should result in more positive market reaction toward RPT relative to Non-RPT announcement.

H2: The relation between CAR and RPT announcement is more positive if CG Score increases

Disclosure of the value of transaction is a proxy of overall disclosure of transaction. Higher disclosre in the announcement of transaction shows company's good intention to provide information and assure sufficient disclosure to shareholders and other stakeholders. If the intention of the transaction is for efficiency reason, then there is nothing to hide, with the consequence of higher disclosure level. As a result, disclosure of the value of transaction should result in more positive market reaction toward RPT relative to Non-RPT announcement.

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H3: The relation between CAR and RPT announcement is more positive with disclosure of value of transaction.

The increase of ownership interest by majority shareholders and by board of commissioners increase the control right as well as cashflow right of the majority shareholders. Accordingly, higher control right makes them easier to conduct RPT. As discussed earlier, RPT can result in positive or negative market reaction depending on how market evaluates the RPT. Market can evaluate RPT as a tool to expropriate minority shareholders' wealth or to increase efficiency and effectiveness of operations.

H4: The relation between CAR and RPT announcement is influenced by ownership interest of majority shareholders.

H5: The relation between CAR and RPT announcement is influenced by ownership interest of the board of commissioner

Assuming foreign investors are more sophisticated than domestic investors in term of their monitoring ability, the existence of foreign investor in a company will increase monitoring and supervision on RPT so it is more likely that RPT occurring is the one that increases the efficiency of company's operation. Thus, higher foreign investors ownership should result in more positive market reaction toward RPT relative to Non-RPT announcement.

H6: The relation between CAR and RPT announcement is more positive with the increase in ownership interest of foreign investor

Sample selection

Unit analysis in this study is listed company with corporate action during the period of 2005 – 2007. Corporate action data is obtained from Indonesian Stock Exchange, data is also gathered from Bisnis Indonesia. Criterias for sample selectrion are:

- Companies listed in Indonesian Stock Exchange

- Companies with corporate action

- Corporate action can be identified as RPT or non-RPT and with or without transaction amount

- Available share prices during the event windows

- Available financial statement and annual report

- Available ownership data from financial statement

Corporate action identification

- This study covers only types of corporate actions that has the potentials for RPT, i.e: Annual Shareholders's Meetings (ASM), result of the ASM, Issuance of shares without preemptive rights, Disclosure on issuance of shares without preemptive rights, Short prospectus on issuance of shares, Tender offer, Merger, and Material Transaction.

Regression Model

The empirical model to test the hypothesis is as follow. To control for heteroscedasticity, the regression is run using White heteroscedasticity consistent covariance matrix.

$$CAR_i(k,l) = b_0 + b_1 DRPT_i + b_2 CGI_i + b_3 DDISCL_i + b_4 PROP_i + b_5 BOC_i + b_6 DFOR_i +$$
$$b_7 CGRPT_i + b_8 DDISCLRPT_i + b_9 PROPRPT_i + b_{10} BOCRPT_i +$$
$$b_{11} DFORRPT_i + b_{12} LOGMKT_i$$

CAR	=	market reaction to corporate action announcement
DRPT	=	types of transaction (dummy; 1=RPT, 0=non RPT)
CGI	=	CG Score
BOC	=	ownership interest of the board of commissioners
DDISCL	=	disclosure of the amount of transaction (dummy; 1=disclosing the amount, 0=not disclosing the amount)
PROP	=	ownership interest of the majority shareholders
DFOR	=	foreign ownership (dummy; 1=majority shareholder is a foreign company, 0=majority shareholder is a domestic company)
CGRPT	=	interaction of CG and DRPT

BOCRPT   =   interaction of BOC and DRPT

PROPRPT =   interaction of PROP and DRPT

DFORRPT =   interaction of DFOR and DRPT

DDISCLRPT   =   interaction of DDISCL and DRPT

LOGMKT   =   size (as a control variable)

In addition to including CGI, BOC, DDISCL, PROP and DFOR as moderating variables,, the study also includes them as independent variables. A study by Black (2001) states that CG practice has a positive relation to value of the firm. Thus, higher CG score may result in higher CAR.CG principles require accurate and timely disclosure of company's information such as financial position, performance, ownership structure, corporate governance application, and RPT. Higher disclosure reduces the degree of asymmetric information which may result in higher CAR. A study by Capulong et.al. (2000) states that in company with highly concentrated ownership, majority shareholders have a significant role in supervising the management, that will be positively responded by the market. But as the ownership gets more concentrated, it will increase the ease with the majority shareholders can authorize an RPT. This condition can have dual effect to market reaction. The same goes to management ownership. Lastly, it is commonly known that foreign ownership increases supervision and monitoring, that will be positively responded by the market.

3. Result and Discussion

Size of RPT in Indonesia

Analysis on the financial statements of listed companies in the Indonesian Stock Exchange during 2005 – 2007 shows that transactions involving related parties are quite substantial relative to the book value of equity. The data are as follow:

- Ratio of RPT assets and RPT liabilities compared to total equity:

  – 42% in 2007, 48% in 2006, and 43% in 2005

- Ratio of RPT sales and RPT expenses compared to total equity:

  – 87% in 2007, 65% in 2006, and 84% in 2005.

Based on the above statistics, we can conclude that RPT is relatively high in listed companies in the IDX. Considering that listed companies in Indonesia mostly have highly concentrated ownership, this result provides evidence that the degree of concentration of ownership structures affects frequency and size of RPT.

Analysis on RPT regulation in Indonesia[83]

Regulation about RPT in Indonesia focuses on several key issues:

- Public companies are required by Bapepam-LK to disclose information on RPT in audited Financial Statements. Details that should be disclosed include:

  o Assets, liabilities, sales, and purchases that involved RPT and their percentage to total assets, total liabilities, total sales, and total purchases

  o If transaction amount or ending balance of the above-mentioned account is more than one billion rupiahs, the amounts or balances should be disclosed separately and relation with that specific party mentioned.

  o Character, nature, and components of RPT.

  o Pricing policies and transaction requirements, and information whether or not the pricing policies and transaction requirements are similar with those of third parties

  o Reasons and assumptions on the creation of allowance for doubtful account to RPT receivables.

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[83] For a more in-depth analysis with Indonesia's experience with managing RPT, please refer to Utama (2008).

- Certain RPT that involves conflict of interest should gain approval from the independent shareholders before it can be done.

- Listed companies should provide disclosures and information, especially on significant RPTs and on RPTs with conflict of interest

- The new company law in 2007 (Undang-Undang No. 40 Perseroan Terbatas) requires directors/commissioners that are involved in conflict-of-interest transaction cannot decide/approve the transaction. The approval should come from other directors/commissioners who are not involved with the transaction. If all directors/commissioners are involved, then shareholders should appoint an independent party to make decision regarding the transaction.

- The company law also enables minority shareholders to file lawsuit against director/commisioner/company for a loss caused by negligience or intentional fraud. Directors/ Commissioners / Controlling shareholders may also personnaly liable they abuse their power to to their advantage at the expense of other parties such as minority shareholders.

Based on our analysis, the RPT regulation in Indonesia has provide adequate protection for all shareholders against potential negative effects of RPT. Indonesia is the only country in Asia that requires approval from independent shareholders in the case of RPTs with conflict of interest.

With regard to firms' compliance to disclosure requirement, the study analyzes the level of RPT disclosure based on the disclosure requirement by Bapepam-LK explained earlier. There are 10 items to be disclosed and each item is checked whether it is disclosed or not. A score of one is given if it is disclosed, zero otherwise. Thus, if firms disclose all items, the maximum score will be ten. The results are as as follow:

- RPT Disclosure in Financial Statements:

  – 81,23% in 2007, 78,9% in 2006, and 79,88% in 2005

The results indicate that the level of compliance to RPT disclosure requirement is relatively good. However, not all disclosure items are complied. Majority of the firms (more than 50%) did not disclose pricing policies and transaction requirements of RPT, while the information is crucial for investors to evaluate the fairness of the transactions.

With regard to independent shareholders approval, between 2001 – 2007 there were approximately 70 transactions obtained independent shareholders, which were relatively small compared to the size of RPT transactions in Indonesia. Thus, the approval processes of majority of RPT during the period were up to the firms. After the enactment of company law in 2007, companies have to follow the article with regard to conflict-of-interest transaction; thus, the impact of this law on RPT remains to be seen.

Further, RPT regulations in Indonesia are not without flaws. The regulations are lacking in term of empowerment and legal support toward their implementation. Indonesia do not have special body or court that can put on trial a company that is proven to have violate the regulations. From this point of view, Indonesia is still behind other coutries in Asia such as Malaysia, Taipei, Thailand, and Vietnam.

Sample

From a total of 2,449 corporate action in 2005 – 2007, only 716 fulfill the requirements of RPT and non-RPT identifications. After that, the selected samples is further analysed based on redundancy and RPT potentials. This second filtering provides us with 177 RPT samples and 190 non-RPT samples. After data availability consideration, we gathered a final sample of 148 corporate actions, 70 of which are RPTs and the rest (78 samples) are non-RPT.

Empirical Results

The following table provides statistic descriptive of the dependent and independent variables.

Table 1. Statistic Descriptive

	CAR	*DRPT*	*CGI*	*DDISCL*	*PROP*	*BOC*	*DFOR*	*LOGMKT*
Mean	-0,004	0,473	0,629	0,432	0,499	0,331	0,385	11,554
Standard Error	0,011	0,041	0,006	0,041	0,013	0,017	0,040	0,109
Median	-0,004	0,000	0,625	0,000	0,510	0,333	0,000	11,745
Standard Deviation	0,135	0,501	0,074	0,497	0,160	0,201	0,488	1,326
Sample Variance	0,018	0,251	0,005	0,247	0,026	0,040	0,238	1,757
Minimum	-0,570	0,000	0,490	0,000	0,074	0,000	0,000	4,834
Maximum	0,676	1,000	0,837	1,000	0,949	0,857	1,000	13,521
Count	148	148	148	148	148	148	148	148

The average CAR is 0.4% and is not significantly different from zero. Thus, on average the market does not react to corporate announcements. The occurrence of RPT (DRPT) has mean value of 0.473; from 70 out of the total sample of 148. This indicates that almost half of corporate actions are RPTs. Considering the nature of ownership structure of companies in Indonesia, the result is not surprising. The

average CG practice is 62.9%, indicating that CG practice in Indonesia is still relatively inadequate. For the occurrence of disclosure of corporate action (DDISCL), the mean value is 0.432; with 64 companies out of the total sample 148 provide disclosure of value of transactions on corporate action. Value of transaction is one key information needed by investors to evaluate the impact of the transaction to firm value, thus, this result shows an inadequate transparancy of listed firms in IDX.

The proportion of majority ownership in companies in Indonesia (PROP) has a mean value of 49.9%, with minimum and maximum amount of 7.4% and 94.9%, respectively. This result is, again, not surprising, and showing that the tendency of ownership structure in companies in Indonesia leans toward high percentage of majority ownership. Ownership interest of the BOC averages around 33.1% with minimum and maximum amount of 0 and 85.7%, respectively. The table also indicates that from total sample 148, 64 of them have a foreign majority ownership.

Table 2 provides correlation analysis among variables. All independent variables do not have significant correlation with CAR. CGI has a positive correlation with DRPT, a negative correlation with BOC, and a positive correlation with LOGMKT. The positive correlation with DRPT is quite a surprise; however, if majority of RPTs are for efficient purpose, then the positive correlation should be expected. Proportion of ownership by majority shareholder (PROP) has a positive correlation with DRPT, suggesting that higher ownership makes it easier for majority shareholder to conduct RPT. As expected, PROP also has a positive correlation with BOC.

Table 2. Correlation Analysis

		CAR	DRPT	CGI	DDISCL	PROP	BOC	DFOR	CGRPT
DRPT	Pearson Correlation	0.105							
	Sig. (2-tailed)	0.203							
	N	148							

		CAR	DRPT	CGI	DDISCL	PROP	BOC	DFOR	CGRPT
CGI	Pearson Correlation	-0.056	0.162(*)						
	Sig. (2-tailed)	0.503	0.049						
	N	148	148						
DDISCL	Pearson Correlation	0.055	-0.035	0.026					
	Sig. (2-tailed)	0.507	0.675	0.754					
	N	148	148	148					
PROP	Pearson Correlation	0.115	0.206(*)	0.038	-0.067				
	Sig. (2-tailed)	0.164	0.012	0.645	0.417				
	N	148	148	148	148				
BOC	Pearson Correlation	-0.062	-0.023	-0.243(**)	0.11	0.206(*)			
	Sig. (2-tailed)	0.453	0.78	0.003	0.184	0.012			
	N	148	148	148	148	148			
DFOR	Pearson Correlation	-0.12	0.085	0.029	0.01	-0.118	-0.046		
	Sig. (2-tailed)	0.145	0.307	0.729	0.905	0.152	0.575		
	N	148	148	148	148	148	148		
CGRPT	Pearson Correlation	0.084	0.985(**)	0.293(**)	-0.04	0.205(*)	-0.069	0.089	
	Sig. (2-tailed)	0.31	0	0	0.628	0.013	0.401	0.283	
	N	148	148	148	148	148	148	148	
LOG MKT	Pearson Correlation	-0.111	0.044	0.315(**)	0.071	-0.088	-0.094	0.108	0.088
	Sig. (2-tailed)	0.178	0.596	0	0.39	0.288	0.254	0.193	0.288
	N	148	148	148	148	148	148	148	148

Table 3 provides the regression result. The result has no possible multicollinearity problems since the Variance Inflation Factors for all independent variables are below 10.

Table 3. Regression result

Variable	Coeff.	Prob.
DRPT	0,33924	0,03710
CGI	0,06672	0,58070
BOC	-0,04873	0,42640
DDISCL	-0,02708	0,26570
PROP	0,14891	0,06850
DFOR	-0,00875	0,71200
CGRPT	-0,42983	0,10580
BOCRPT	-0,13645	0,29060
DDISCLRPT	0,10967	0,02390
PROPRPT	-0,06387	0,63380
DFORRPT	-0,03161	0,47670
LOGMKT	-0,00834	0,15950

R^2 = 12.27%

Adjusted R^2 = 5.17%

Study by Gordon, Henry, dan Palia (2003) states two hypotheses for the nature of RPT. The first hypotheses, the conflict of interest hypotheses, claims that RPT is a transaction with tendency toward expropriation of minority shareholders' wealth. The second hypotheses, the efficient transaction hypotheses, claims that RPT can fulfill basic economic needs of corporation with its ability to decrease cost of transactions. Hypotheses of this study is RPT announcement can have a positive and negative market reaction

Result from table 3 supports the efficient transaction hypotheses. There is a positive and significant relation between RPT announcement and market reaction to that announcement at 5% significance level. With this result, we can conclude that in general market reacts positively toward RPT announcement because they view RPT as transaction to be more efficient than Non-RPT and thus can increase value of the firm. The finding is contradictory to the findings of Utama (2006) and Masuroh (2000) who find a relatively more negative reaction toward RPT than Non-RPT. There are several plausible reasons for this contradictory results:

1. The period of studies of Masuroh (2000) and Utama (2006) covers earlier years (before 2005) than the current study. There may be structural changes (e.g., more regulation, more stringent enforcement) over time that may affect the results. Thus, this possibility warrants further research that cover longer period.

2. This study covers broader corporate action than their studies, which are limited only to investment decisions. This may imply that non-investment decisions are less likely to be employed as means to expropriate than investment decisions.

Table 3 also provides evidence of a positive and significant relation between DDISCLRPT and CAR, supporting hypothesis 3. Disclosing the value of transaction

indicates management's good intention of transparency toward shareholders and other stakeholders. Disclosing the value of transaction also reduces asymmetric information regarding the transaction. Therefore, market reaction to the disclosure is positive.

The study finds that corporate governance practice does not have any impact on the relation between RPT and CAR, as shown by the insignificant coefficient of CGRPT. The result suggests that in Indonesia, corporate governance practice is not yet effective in controlling RPT that might be detrimental to a firm. However, one reason that may explain the insignificant result is the measurement of CG practice. As mentioned earlier, CG Score is based on five principles of Corporate Governance, including the principle of taking into account the interest of stakeholders. This principle is not related to the internal control mechanism in a firm, including internal control related to RPT. Thus, future study may need to come up with a more refined measure of CG that covers only internal control of a firm.

All ownership structure variables are not significant, implying that ownership structure does not have any role in controlling RPT.

4. Conclusion

With regard to regulation on RPT in Indonesia, we conclude that in general the regulation is relatively adequate. The regulation includes

- Listed companies in Indonesia is obliged to disclose detail RPT information in Financial Statement
- RPT with conflict of interest should gain approval parties not involved with the transactions.
- Certain RPTs require approval from independent shareholders.

- Directors/Commissioners/Controlling Sharholder can be held personally liable for causing loss to a firm/minority shareholders as a result of RPT transaction.

- Under certain condition, minority shareholders may file lawsuit against directors/commissioners/controlling shareholders for any wrongdoing.

However, Indonesia still lacks legal empowerment against violation of RPT and CG regulation.

The study finds that in general, market views RPT as more beneficial than non-RPT. Further, market appreciates more disclosure on RPT. Thus, the study recommends regulatory body to enforce the compliance of listed firms to disclosure requirement. On the other hand, we also find that CG practice is not yet effective in controlling RPT and ownership structure does not have any effect on the nature of RPT.

The study has some limitations that deserve mention. The study covers only three years, thus future study needs to extend the period of the study. The proxy for CG practice may be too broad so it does not capture the role of CG in controlling RPT. Therefore, future studies may need to develop a more refined measure of CG. Future study may also need to distinguish RPT into several types as suggested by Cheung (2006) and test whether the reaction is contingent upon the types of RPT. RPT may also be categorized into type of business decisions, such as investment, financing, or operating decisions and future study may investigate whether the type of business decision affects the market reaction.

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PRIVATE INFORMATION ARRIVAL AT INDONESIA STOCK EXCHANGE, REALITY OR IMAGINARY? U-SHAPED RETURN VARIANCE CURVE VERIFICATION

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Abstract

This research investigates occurrence of private information arrival in the Indonesia Stock Exchange (IDX). The occurrence comes from overnight nontrading session as well as lunch-break hour. Lunch-break return variance decrease negatively two times in comparison with early morning and lately afternoon return variances. This variance is not due to public information arrival because public information flows did not change stock prices. Based on microstructure theory, this morning return variance was affected by private information or mispricing.

This study finds that opening prices form the full day U-shape. It means that opening price causes mispricing's stock. It also be concluded that the occurrence are considerably caused by relevant asymmetric information. In addition, lunch-break session produces the bottom line on the U-shape to move downward. Therefore, the movement implies the existence of private information that is short-lived.

Keywords: *U-Shaped, private and public information, asymmetric information*

JEL Classification: G-11, G-14, M-41

1. Introduction

A research has confirmed that price variance or return volatility is always highly fluctuating between morning and afternoon trading period in IDX (Sumiyana, 2007; 2008). This study continues the research above by a question "why does return volatility increase during every trading period in IDX?" Some previous research have tried many times to answer the questions which end up in price formation theory (French & Roll, 1986; Harris, 1986; Wood, McInish & Ord, 1985; Jain & Joh, 1988; McInish & Ord, 1990; Amihud & Mendelson, 1991; Peiers, 1997; Huang, Liu, & Fu, 2000; Steeley & Chelley, 2001). The inference obtained from those studies shows that there are three possibilities causing the high movement of return volatility. The first is public information that generally comes during trading sessions. Second, private information drives the trading which influences the price change during trading period. Third, error in pricing may occurs during trading period. Furthermore, French & Roll (1986) stated that the first and third reason is denied because public information arrival does not change stock prices.

Additionally, pricing error is founded with very low probability. Therefore, the main cause of high return volatility is only private information.

More substantially, in order to prove price formation theory, we design this study using formula of intra hour's day of the week as conducted by Amihud & Mendelson (1987), Stoll & Welley (1990), Huang, Liu & Fu (2000), and Guner & Onder (2002). Amihud & Mendelson (1987) stated that return variance during open-to-open period is greater than close-to-close period. Stoll & Welley (1990) derived the same conclusion as Amihud & Mendelson (1987) research, but confirmed that their research is consistent with trading mechanism hypothesis. Huang, Liu & Fu (2000) developed research that investigates empirically that returns variance during trading period is greater than return variance during nontrading period. Similarly, Guner & Onder (2002) stated that private information is submitted by informed traders during a trading period, so that private information tends to directly influence the return during trading. As a result, volatility during trading period is higher than volatility during nontrading period. This research proves that this private information hypothesis does correct.

The examination of private information phenomenon which is really occurring especially in IDX is conducted within two stages in this study. In the first stage, the study conducts examination by comparison of the return volatility between trading periods and inter trading period simultaneously on assumptions that public information flow does not change. In the second stage, this research examines the result of the first stage in more in-depth way to support private information hypothesis. The examination is conducted in series formulation that U-Shaped volatility is built. The confirmation of U-Shaped volatility is sharpened in lunch break which is suspected with the lowest return variance. Later, the movement of return variance is inversely lessened, which means moving upward to the upper right after lunch break. This series can be interpreted that private information which come to the traders during morning trading period has been corrected after the opening of day trading session. This correction is marked by the fall of return variance after the opening trading session.

The existence of U-Shaped theory signifies that return variance during lunch break is lower than all return variance during morning and afternoon trading session. If the IDX also has that kind of return variance movement, it can be concluded that information dissemination during trading is correct and valid (Amihud & Mendelson, 1991; Ito & Lin, 1992). The reasons that can be presented are the pressure of morning trading sessions as a result of private information accepted before by investors. The trading pressure also drives the high return volatility during morning trading session (Ito, Lyons & Melvin, 1998).

This research examines return volatility which has phenomenon in U-Shaped form that is empirically truely and correctly occurs in IDX. This examination means that private information is proven undeniable in IDX which means a denial to the trading system based on public understanding that the trading is completely based on a set of public information. Using equivalent statement, this research examines the similarity or dissimilarity of distributive structure of return during some intervals within one day. This phenomenon becomes extremely important due to various condition of stock market, especially emerging stock market compared to advanced stock market. This research is useful for investors and potential investors to analyze current and future investment and investment decision. The acquired information is in form of stock price variability behavior during trading periods in IDX related to timing of sell-buy strategy. Another benefit of this research is return information reliability during trading period in relation with the timing of investment decision taken by the investors and potential investors.

The remaining research discussion is set as follows. Section 2 **discusses the literature reviews and hypothesis development. The developed hypothesis**

consists of main hypothesis which is re-examined using other sensitivity tests. Section 3 **discusses research methods used to examine all hypotheses.** Section 4 **discusses result and finding of this study. The last,** Section 5 **discusses conclusion inferred from the result and finding.**

2. Literature Reviews and Hypotheses Development
Information, Volatility and Trading Period

Stock price volatility is begun with investors' belief revision (Barron, 1995). The revaluation process is conducted by estimating expected return used to determine stock intrinsic value. The revaluation uses the latest data. The acquired result is compared to current price to evaluate stock price fairness. The evaluation of stock value fairness is used to decide buy-sell strategies. At this condition, there are two sides that have contradictive objectives, namely the stock buyers who expect price increase after selling, and the stock sellers who expect the price decrease. These contradictive objectives cause stock price volatility. Each time the price is set, and then during the same time the balance of stock supply and demand is set. The rate of stock price volatility is comparable to the fluctuation of stock intrinsic value, and information that arrives to investors highly influences stock price re-evaluation (Berry & Howe, 1986). Therefore, the process of stock price volatility is inseparable with the arrival of new information to investors.

Fama (1970; 1991) stated that stock price reflects all available information, including previous price, public information and private information. Private information is rarely occurred and only affects the price through trading by informed investors, which usually do trading based on investor's information for more than one day (Fama, 1991). Public information is information recognized at the same time it affect the price, before the investors are able to use it as trading decision strategy (French & Roll, 1986, Berry & Howe, 1994). Public information is presented for all investors, but evaluated differently by investors who have different beliefs (Barron, 1995, Odean, 1998). Informed and uninformed investors only do trading when new information available, such as future cash flows or other variables such as wealth, preferences, and investment opportunities. The investor's reaction against information occurs when the information arrives. The reaction causes price change that reflects the expected risks and investors acquirement (Berry & Howe, 1994).

Nofsinger (2001) supports stock return volatility pattern by examining the trading behavior of institutional and individual investors after the firm specific information and macroeconomics announcement published by the Wall Street Journal. The investors tend to pay attention to the published firm specific information especially about earnings and dividend. Institutional and individual investors buy after good economics news and sell after bad economics news. This shows that public information and macroeconomics announcement published by the Wall Street Journal highly affecting stock price volatility.

Frino & Hill (2001) stated that stock price behavior is highly affected by public information announcement in Sydney Future Exchange (SFE). Balduzzi, Elton & Green (2001) stated that the effect of most public information tends to be brief within less then 30 minutes. The analysis of price volatility, trading volume and bid-ask spreads indicates that adjustment against new information occurs very quickly, within 240 seconds the effect of new announcement is detectable. The analysis of bid-ask spreads effect also occurs within two minutes before public information and 30 minutes after the public information is published. The increase of bid-ask spreads is closely related to price volatility, which implies that market responds against public information.

Pritamani & Singal (2001) examined public information arrivals which are proxies by volume increase and price change. The results show abnormal return which becomes

greater. If the information is related to the earnings or in accordance with the analysts recommendation, abnormal return during 20 days becomes greater in range of 3,00%-4,00% for good news, and the lowest of -2,25% for bad news. Grundy & Kim (2002) stated that rank of information heterogeneity affect the increase of price variability equal to 20%-46% compared to the economics information homogeneity. This price variability means that private information positively contribute to price variability compared to public information. Suhaibani & Kryzanowski (2000) examined the information contents of new bids in Saudi Stock Market (SSM). The new bids which are greater and more aggressive are caused by information arrivals. The relative measurement of bids information implies that private information is dominant factors in stock trading decisions. Therefore, private information also affects price volatility.

Bery & Howe (1994) stated that investor's reaction against new information arrival is reflected in stock price change which indicates expected risks and acquired return. Public information is responded longer in overnight periods than morning and afternoon trading session. Therefore, return volatility is hypothesized higher during nontrading period than during trading periods. Inversely, Amihud & Mendelson (1991) and Huang, Liu, & Fu (2000) proved empirically that return volatility is higher during trading periods caused by private information arrival. Private information is published during trading periods by the informed traders, and private information is hypothesized that return during trading periods is higher than during nontrading periods.

A.

B. Examination Stage and Hypothesis

C. This study focuses on examining the existence of private information based on U-Shaped curve formula. Until recently, this formula is trading model which believe to private information arrival. Essentially, this formula explain corrected price variance during the early morning trading session (Wood, McInish & Ord, 1985; Harris, 1986; Andersen & Bollerslev, 1997; Admati & Pfleiderer, 1988; Foster & Vismanathan, 1990; Slezak, 1994). Private information refers to information that fill two criteria, namely not in form of publicly known and always related to price (Ito & Lin, 1992; Ito, Lyons & Melvin, 1998). Meanwhile, French & Roll (1986) define that private information is correctly identifiable because it is related to price momentarily or permanently. This study defines and emphasizes that private information is related to price, so that temporary and permanent impacts are still qualified as private information.

D. First stage, this study examines private information arrival based on theory shown by French & Roll (1986) and Ito, Lyons & Melvin (1998) who examined by focusing on the lowest line in U-Shaped curve. This examination is none other than lunch break. This examination uses lunch break return volatility by comparing closing return variance and opening return variance which must greater than one. Inversely, if the comparison value is equal to one, this can be considered as public information arrival, which means that return variance does not change from opening price at morning trading session until closing price at lunch break session. Therefore, private information arrival can be hypothesized as follows.

E.

F. H1**: Lunch break return volatility in IDX is caused by private information arrivals.**

G.

H. Test: $\dfrac{V_L^O}{V_L^C} > 1$

I.

J. where, V_L^C and V_L^O are closing and opening lunch break return variance. Notation: C (*close*), O (*open*) and L (*lunch*).

Second stage, this study analyse the differentiated private information arrival by examination of return volatility change during morning and afternoon trading session. Specifically, from private information theory, this study predicts the behavior of intraday return volatility which respond to opening price at morning trading session. By ignoring pricing error due to the inability of pricing error model to predict return variance, predicted return volatility change is able to confirm private information arrivals.

The examination in this second stage is conducted by assigning model exposed by Admati & Pfleiderer (1988). The research suggests that if a number of private information did not change while the trading drives the change, private information should not cause price change whose return is not distributed during morning trading session until afternoon. In fact, private information always drives price change which ends up in return distibution all day long. Therefore, this study deduces that return distribution occurs due to private information captured during trading.

K. H2: **Private information arrival is revealed during trading session marked by the decrease of lunch break return volatility (bottom line of U-Shaped curve)**

L. Test: $\dfrac{V_L^C}{V_M^C} < \dfrac{V_L^O}{V_M^O}$ **and** $\dfrac{V_L^C}{V_A^C} < \dfrac{V_L^O}{V_A^O}$

M.

N. **With additional notes from previous test, V_M^O and V_M^C are return variance during the opening and closing of morning trading session, and V_A^O and V_A^C are return variance during the opening and closing of afternoon trading session, where M (*morning*), and A (*afternoon*).**

O. **The prediction of private information arrival can be done by cutting off the trading during morning trading session for the first four hours. In other words, the trading is limited until lunch break. This cutting off is based on logical framework recommended by Ito, Lyons & Melvin (1998). This research suggested that −if not limited during lunch break− bottom line of U-Shaped curve flattens, it means that U-Shaped during one full day is not confirmed (Slezak, 1994; Hong & Wang, 1997). U-Shaped framework in morning trading session cutting off can be hypothesized as follows.**

P. H3: **The private information arrival is uncovered during morning trading session marked by increasing return variance during early morning trading session −limited until lunch break session− that is able to form U-Shaped curve during one full day**

Q. Test: $\dfrac{V_{MM}^C}{V_{EM}^C} < 1$ **and** $\dfrac{V_{LM}^C}{V_{MM}^C} > 1$ **and** $\dfrac{V_{LM}^O}{V_{MM}^O} \leq 1$

R.

S. With additional notes from previous tests, V_{EM}^{O}, V_{EM}^{C}, V_{MM}^{O}, V_{MM}^{C}, V_{LM}^{O} and V_{LM}^{C} are return variance during the opening or closing price at early, mid, and late morning trading session. Additional notes: EM (*early morning*), MM (*mid morning*), and LM (*late morning*).

The examination of private information arrival continues by referring research concepts exposed by Kyle (1995). This research stated that private information is not related to price in long term. On the contrary, private information should be related only to price in short term because informed traders always choose to do trading as long as the information is reflected by the price (Ito, Lyons & Melvin, 1998). Return volatility during short term is suspected whether the opening return variance is higher than closing return variance. It means that opening return variance during morning trading session affects the return variance during all morning trading session. Moreover, opening return variance during afternoon trading session should also be determined by return variance during previous morning trading session, because traders are motivated not to delay their transaction which enlarges return variance during morning trading session. Such characteristic refers to private information model (Foster & Viswanathan, 1990). This comparative condition can be used to develop hypothesis that private information always occurs during short term as follows.

T. H4**: The private information arrival is revealed during trading session in short term when opening return variance ratio is greater than closing return variance ratio outside lunch break (forming the descending line of U-Shaped curve)**

U. Test**:** $$\dfrac{\left(\dfrac{V_{M}^{O}}{V_{A}^{O}}\right)}{\left(\dfrac{V_{M}^{C}}{V_{A}^{C}}\right)} > 1$$

V.

W. With additional notes from previous test, V_{M}^{C}, V_{A}^{C}, V_{M}^{O} and V_{A}^{O} are return variance during opening or closing morning trading session and afternoon trading session.

3. Research Method

X. The sample in this research is companies listed in LQ45 index during either first or second semester of 2006-2007. LQ45 selection is based on reasons that companies listed in LQ45 have high liquidity, so this study are able to minimize sleeping stocks during the trading day. The sleeping stock can affect internal and conclusion validity of this study. This sample selection method is used because IDX is thin market marked by lots of sleeping stocks.

Y.

Z. *Return*

AA. Opening and closing price for return each 30 minutes interval lay in trading day which acquired from intraday data. Return is calculated by natural logarithm of relative price $R_{i,30',(t)} = \ln(P_{i,30',(t)}/P_{i,30'-1,(t)})$ where *i* is firm and *t* is day for each firm. To calculate 30 minutes interval return,

companies' trading data is divided into 12 intervals, and the formulation is as follows.

Return interval 30'number -01	: $R_{i,16.00(t-1)-09.30(t)} = \ln(P_{i,09.30(t)}/P_{i,16.00(t-1)})$
Return interval 30'number -02	: $R_{i,09.30(t)-10.00(t)} = \ln(P_{i,10.00(t)}/P_{i,09.30(t)})$
Return interval 30' number -03	: $R_{i,10.00(t)-10.30(t)} = \ln(P_{i,10.30(t)}/P_{i,10.00(t)})$
Return interval 30' number -04	: $R_{i,10.30(t)-11.00(t)} = \ln(P_{i,11.00(t)}/P_{i,10.30(t)})$
Return interval 30' number -05	: $R_{i,11.30(t)-11.00(t)} = \ln(P_{i,11.30(t)}/P_{i,11.00(t)})$
Return interval 30' number -06	: $R_{i,12.00(t)-11.30(t)} = \ln(P_{i,12.00(t)}/P_{i,11.30(t)})$
Return interval 30' number -07	: $R_{i,13.30(t)-13.00(t)} = \ln(P_{i,13.30(t)}/P_{i,13.00(t)})$
Return interval 30' number -08	: $R_{i,14.00(t)-13.30(t)} = \ln(P_{i,14.00(t)}/P_{i,13.30(t)})$
Return interval 30' number -09	: $R_{i,14.30(t)-14.00(t)} = \ln(P_{i,14.30(t)}/P_{i,14.00(t)})$
Return interval 30' number -10	: $R_{i,15.00(t)-14.30(t)} = \ln(P_{i,15.00(t)}/P_{i,14.30(t)})$
Return interval 30' number -11	: $R_{i,15.30(t)-15.00(t)} = \ln(P_{i,15.30(t)}/P_{i,15.00(t)})$
Return interval 30' number -12	: $R_{i,16.00(t)-15.30(t)} = \ln(P_{i,16.00(t)}/P_{i,15.30(t)})$

Trading Session and Return

Trading session is not equal during each day. Trading is opened at 09.00 every day, but the first session is closed at 12.00 on Monday until Thursday, while on Friday the first session is closed at 11.30. the second session is opened at 13.30 on Monday until Thursday, while on Friday the second session is opened at 14.00. the second session is closed at 16.00 every day. **Picture 1** shows trading day and trading period along with their relation with hypotheses examination in this research.

Insert Picture 1 about here

Data Analysis

Data analysis was conducted analysis in the following procedural steps:

1. From intra-day data, 12 series of price was obtained that is price within 30 minutes interval. This 30 minutes interval price was used to calculate return.
2. Calculating return by $R_{i,30',(t)} = \ln(P_{i,30',(t)}/P_{i,30'-1,(t)})$, which is return within minute interval from the first until twelfth. Opening return was calculated by $\ln(P_{i,09.30(t)}/P_{i,16.00(t-1)})$
3. Forming 12 series of 30 minutes interval return from Monday until Friday to determine the sensitivity rate against noise and overreaction. The analysis in this examination is only focused to differentiate the return in one 30 minutes interval from other returns of 30 minutes interval.
4. Eliminating the days around dividend announcement under the reason to eliminate high price fluctuation (H_{-3} and H_{+3}), and to make adjustment against stock dividend, stock split, bonus share and stock reserve split.
5. Identifying points related to **OM:** open morning**; OEM:** open early morning; **CEM:** close early morning; **OMM:** open mid morning; **CMM:** close mid morning; **OLM:** open late morning; **CM:** close morning; **CLM:** close late morning; **OL:** open lunch; **CL:** close lunch; **OA:** open afternoon; and **CA:** close afternoon.
6. Calculating V_L^C, V_L^O, V_M^C, V_A^O, V_{EM}^O, V_{EM}^C, V_{MM}^O, V_{MM}^C, V_{LM}^O, V_{LM}^C, V_M^C, V_A^C, V_M^O and V_A^O, which consecutively show variance during opening (O: *open*), closing (C: *close*), lunch break (L: *lunch*), morning trading session (M: *morning*), afternoon trading session (A: *afternoon*), and the two digits letter begining with E, M dan L which represent early morning trading session (E: *early*), mid morning trading session (M: *mid*) and late morning trading session (L: *late*).
7. Examining all hypotheses according to applicable ratio

4. Results and Findings

The first part of this section examines the first stage to prove the non existence of return variance during lunch break. Later, this research examines the second stage to prove the private information arrival along with its effect duration within relatively short term. The descriptive statistics begins firstly in this section.

Descriptive Statistics

The descriptive statistics shows highly varied 30 minutes interval data during 2006. Inference that can be derived from **Table 1** is the magnitude of mean of return 30 minutes interval with the lowest number during the period from previous day closing until the following 09.30 at -0,00093. This lowest mean is at the beginning of 30 minutes interval. Meanwhile, the highest mean of return of 30 minutes interval during the period of 09.30-10.00 is 0,0005 and during the period of 15.30-16.00 is 0,00424.

Inference derived from these mean figures is that the highest mean is within the earliest 30 minutes interval during early morning trading session and within lately trading day. This condition serves as the evidence that the return is surging compared to the previous 30 minutes interval. Meanwhile, the number of observations for the first 30 minutes interval is 10.845 and from this sum, only 9.956 are usable or 889 are excluded. This exclusion is caused by lack of transaction during this interval causing no price differences or no return. This explanation is applicable for the rest discussion.

Insert Table 1 about here

The standard deviation of each 30 minutes interval varies in relatively equal number. For 30 minutes interval during period 15.30-16.00 is 0,00708. The minimum value, maximum value, and skewness value are presented following the standard deviation column. For instance, minimum value for the last 30 minutes interval during trading day (return of 15.30-16.00) is -0,03, the maximum value is 0,04 and the range between minimum value and maximum value is 0,07. The high return during 09.30-10.00 and 15.30-16.00 along with the low return and the effect of last trading day becomes clearly observed in graphically presentation as presented in **Figure 2**.

Insert Figure 2 about here

First Stage Examination Result

The first hypothesis states that return volatility during lunch break at IDX is caused by private information arrival. This hypothesis can also be interpreted that return variance during opening of lunch break session is greater than return variance during the closing of lunch break session. The examination in this stage used the whole sample using the period of three first months within year of observation, period of six cumulative months from the first period, period of nine cumulative months from both previous periods, and period of twelve cumulative months from three previous periods. The examination result shows that ratio between return variance of the opening of lunch break session and return variance of the closing of lunch break session is greater than one. The examination result for all samples is presented in **Table 2**.

Insert Table 2 about here

      Inference derived from Table 2 is as follows. All ratios between return variance during lunch break opening and return variance during lunch break closing are greater than one. These ratios are in detail within a range between 2.7 and 3.3. These ratios tested by mean comparison tests show statistically significant result, with t-value (sig.) equals to 14.7710 (0.000). Therefore, we conclude that opening return variance during lunch break compared to closing return variance during lunch break is not caused by public information arrival but private information arrival instead. In the beginning evidence, this research supports the concept exposed by French & Roll (1986) and Ito, Lyons & Melvin (1998).

Second Stage Examination Result

The second stage examination begins with hypothesis H2 examination. This second stage examination enhances the proofing of private information arrival at IDX. In other words, this examination also deepens to prove U-Shaped curve formulation or also shows return volatility within one day. This second stage examination is also conducted using all sample with the period of the first three months with the observation year, period of six cumulative month from previous period, period of nine month from both previous periods, and period of twelve months from all three previous periods. **Table 3** shows in detail the examination result from all samples.

Insert Table 3 about here

      Inference derived from Table 3 shows that opening return variances during morning and afternoon trading session are greater than the closing return variances during afternoon trading session or trading around lunch break session. The figures presented in Table 3 are results of following calculation. Opening return variance during lunch break session is divided by opening return variance during the following morning trading session. The result is then divided by the ratio between closing return variance during lunch break and closing return variance during morning session. Similarly, this formula is also applicable for the third column. The result shows that the ratio is greater than one. This means that the opening return variance during morning session is the greatest number which affects all return variances during morning trading session. This result can also be interpreted as that return variance during lunch break session is smaller than opening return variance during morning session and closing return variance during afternoon trading session.

      All ratios are greater than one, which in details are in a range between 1.13 until 17.57, except for the third row that is 0.97. These ratios examined by one sample mean comparison test show statistically insignificant difference with t-value (sig.) that equals to 1.660 (0.195). However, when examined by one sample mean comparison test using one lag show statistically significant with t-value (sig.) that equals to 2.593 (0.085). The conclusion is that hypothesis **H2** could be supported. This result indicates existence of opening return variance during lunch break compared to opening return variance during morning trading session due to private information arrival. Therefore, closing return variance during afternoon trading session is greater than opening and closing return variance during lunch break, and opening return variance during afternoon trading session. With the confirmation that all ratios are greater than one, this concludes that bottom line in U-Shaped curve is the lowest return variance compared to all return

variance within full day. In the beginning evidence, this research, once again, supports the concept recommended by French & Roll (1986) and Ito, Lyons & Melvin (1998).

The second stage examination is contiued with hypothesis H3 examination. Hypothesis H3 states that private information arrival is revealed during morning trading session marked by return variance during early morning trading session which should be greater than mid and late morning trading session. The test is limited until return variance during lunch break in order to be able to form U-Shaped curve. This hypothesis has simple reason that if U-Shaped curve is confirmed only during morning trading session, U-Shaped curve within one day can not be confirmed. Therefore, the confirmation of U-Shaped during morning trading session denies the private information arrival whose opening return variance during early morning session does not affect return variance during within one day. Related to this reason, this study does not wish to prove that hypothesis H3 is supported. The detailed examination result of hypothesis H3 is presented in **Table 4** as follows.

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Insert Table 4 about here
\-

The examination result presented in Table 4 confirms that closing return variance during mid morning trading session is greater than closing return variance during early morning trading session. Therefore, the verification in second column of Table 4 shows opposite from that was hypothesized, that ratio of closing return variances should be less than one, but it is greater than one instead. Furthermore, the ratio, which is inversed, when examined by one sample mean comparison test using one lag results is statistically significant difference, with t-value (sig.) that equals to 4,540 (0,020). The opposite result from this examination that was hypothesized is also shown in third column. It means that ratio of closing return variances that was supposed to be greater than one but it is less than one instead. Furthermore, the third column shows opposite figure of the ratio from that was hypothesized and also statistically insignificant.

The examination result shown in the third column of Table 4 signifies that during morning trading session, the U-Shaped curve cannot be confirmed. Therefore, hypothesis H3 is not supported. This should serve as proof that U-Shaped curve should not be proved within one day. Therefore, this study concludes that opening return variance is still the biggest one which affect all variance within one full day. The temporary conclusion is that this result strengthens H1 and H2 examinations. It means that return variance at IDX is caused by private information arrival or supporting to the validity of U-Shaped curve formulation within full day period (French & Roll, 1986 and Ito, Lyons & Melvin, 1998).

The second stage is sharpened by hypothesis H4 examination. Hypothesis H4 states that private information arrival is revealed during short term trading when ratio of opening return variance is greater than ratio of closing return variance at the outside of lunch break or when bottom line of U-Shaped curve is deepened. Another reading method to this hypothesis is that opening return variance during morning trading session is compared to opening return variance during afternoon trading session then divided by ratio between closing return variance during morning trading session and closing return variance during lunch break. In addition, this ratio should be greater than one. The examination result is presented in Table 5 as follows.

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Insert Table 5 about here
\-

The result presented in Table 5 signifies that hypothesis H4 is supported. It means that all return variance ratios are greater than one, with the lowest ratio is 1.794 and the highest one is 10.3987. The ratios when examined by one sample mean comparison test result statistically significant difference with t-value (sig.) that equals to 2.810 (0.067). The conclusion from this examination is the confirmation of private information arrival which always related to price and the arrival occurs within one trading day or does not have permanent influence against stock price (French & Roll, 1986; Foster & Viswanathan, 1990; Kyle, 1995; and Ito, Lyons & Melvin, 1998). Such examination result can also be interpreted as in supporting with hypotheses H1 and H2.

Sensitivity tests by firm size
A sensitivity test by firm size is served to control the consistency of hypothesis by hypothesis examination that has been completed before. Hypothesis H1 is re-examined by firm size quintiles. This research divides firm size into five categories from the smallest to the biggest ones. Furthermore, the consistency of hypothesis examination for each firm size category is expected to gain consistent results. The detailed examination result is presented in Table 6 as follows.

Insert Table 6 about here

Table 6 shows that ratio between opening return variance during lunch break and closing return variance during lunch break is greater than one for almost all firm size, except the smallest one. The examination result using one sample mean comparison test with one lag shows that firm size that is not included in the smallest ones (B group or above) have statistically significant difference, with t-values (sig.) that consequtively equal to 3.038 (0.056), 5.905 (0.010), 2.974 (0.059), and 4.5 (0.020). Hypothesis H1 is once again supported which means that opening return variance during lunch break compared to closing return variance during lunch break is not caused by public information arrival, but private information arrival instead (French & Roll, 1986 and Ito, Lyons & Melvin, 1998). Therefore, medium to big firm size tend to capture private information at IDX.

The hypothesis H2 examination strengthen the confirmation of U-Shaped curve, which means that private information arrival is undeniable if the opening return variance during early morning trading session compared to closing return variance during lunch break or return variance during around lunch break is greater than one. The examination shows consistent result with previous hypothesis H2 examination, that is return variance during lunch break must be less than opening return variance during morning trading session and closing return variance during afternoon trading session. The detailed result is presented in Table 7 as follows.

The result presented in Table 7 shows that the first ratio is proven greater than one for medium firm size. Examination using one sample mean comparison test with one lag results statistically significant difference with t-value (sig.) that equals to 7.500 (0.005). Meanwhile, the ratio of second return variance is proven greater than one from the smallest firm size until the biggest firm size. The statistics examination show t-value with significance level of 5% and 10%. Therefore, this study concludes to confirm that all ratios are greater than one, then the bottom line of U-Shaped curve is the lowest return variance compared to all return variances within one day.

Insert Table 7 about here

Hypothesis H3 states that if U-Shaped curve is proven only during morning trading session, U-Shaped curve within one day cannot be proved. The examination results of firm size quintiles are presented in Table 8.

Insert Table 8 about here

Table 8 shows a notably interesting result. Except medium firm size (column C), all other three ratios examined for hypothesis H3 are supported. As previously explained, this study has motivation not to support hypothesis H3. The results show that for all firm size, except medium firm size, the first return variance ratio does not support hypothesis H3. Similarly, for all firm size, except medium firm size, the second return variance ratio is proven not to support with hypothesis H3. Therefore, this research concludes that hypotheses H1 and H2 is once again supported. This means that return variance at IDX is caused by private information arrival or in supporting to the validity of U-Shaped curve formulation for every trading day in the stock market.

The re-enhancement by hypothesis H4 examination shows that private information arrival is revealed during short term trading if ratio of opening return variance is less then ratio of closing return variance outside lunch break or if the descending line of U-Shaped curve is formed. The result is presented in detail at Table 9 as follows.

Insert Table 9 about here

The result presented at Table 9 signifies that hypothesis H4 is supported. It means that all examined return variance ratios are greater than one. These ratios when examined by one sample mean comparison test with one lag result is statistically significant difference, with t-values (sig.) that equal to 4.225 (0.024) for smallest firm size (column B), 2.427 (0.094) for medium firm size, and 4.061 (0.027) for the biggest firm size. This examination result is once again in supporting to hypotheses H1 and H2. This study concludes the comfirmation of private information arrival which is always related to stock price within one day or does not influence stock price permanently (French & Roll, 1986; Foster & Viswanathan, 1990; Kyle, 1995; and Ito, Lyons & Melvin, 1998).

Sensitivity tests by trading volume
Similar to sensitivity tests by firm size reasoning, sensitivity tests by trading volume is aimed to ensure the consistent results of this research hypothesis. The examination is conducted by dividing the sample into trading volume quintiles, which are, in ascending order, the smallest, B, C, D, and the biggest. The order of subsection analysis and discussion are similar to the previous discussion of sensitivity tests by firm size. The detailed analysis result is presented in following tables.

Table 10 for hypothesis H1, Table 11 for hypothesis H2, Table 12 for hypothesis H3, and Table 13 for hypothesis H4 examinations show result which do not too far in comparison with the result of firm size sensitivity tests. Considering that on sensitivity tests by firm size, hypothesis H1 is supported, hypothesis H2 is supported, hypothesis H3 is not supported, and hypothesis H4 is supported. Therefore, this research concludes that results of trading volume examination are consistent with the previous results. Therefore, this research concludes the same as before.

645

Insert Table 10 about here

Insert Table 11 about here

The private information arrival is undeniable because opening return variance during early morning session compared to closing return variance during lunch break session or return variance around lunch break is greater than one. In other words, return variance during lunch break session must be smaller than opening return variance during morning session and closing return variance during afternoon session. This finding is consistent and in supporting to hypothesis H1. Therefore, the bottom line of U-Shaped curve is the return variance during lunch break which is the smallest variance compared to all return variance within one day. This finding is also in supporting to hypothesis H2. Furthermore, hypothesis H3 examination also confirms that U-Shaped curve is not proven during morning session of trading day. This means that U-Shaped curve is a function of return variance in full day period. The last one, hypothesis H4 examination shows that private information arrival is always related to the stock price and its arrival occurs within one trading day or does not have permanent effect on stock price. The overall results of hypothesis by hypothesis examination on trading volume sensitivity tests conclude that private information occured and is proven valid in IDX.

Insert Table 12 about here

Insert Table 13 about here

Sensitivity tests by bid-ask spreads
This examination has equal reason which is in accordance with both firm size and trading volume examinations. Sensitivity tests by bid-ask spreads is conducted to examine hypotheses test consistency. This study divided sample into bid-ask spreads quintiles, which are, in ascending order, the smallest, B, C, D, and the biggest. From Table 14 until Table 17 show similar results compared to the previous examination by both firm size and trading volume. All examinations confirm that private information arrival is proven valid in IDX. This is marked by the opening return variance during early morning session compared to closing return variance during lunch break or return variance around lunch break which is greater than one. This finding is consitent and in supporting to hypothesis H1. Therefore, the bottom line of U-Shaped curve is return variance during lunch break which is the smallest variance compared to all return variance within one day. This finding supports to hypothesis H2. Furthermore, hypothesis H3 examination also confirms that U-Shaped curve did not exist during morning trading session. This means that U-Shaped curve is a function of return variance in full day period. The last one, hypothesis H4 examination, shows that private information arrival is always related to stock price and its arrival occurs within one trading day or does not have permanent effect on stock price. The detailed results of hypothesis by hypothesis examinations are presented in the following consecutive tables.

Insert Table 14 about here

Insert Table 15 about here

Insert Table 16 about here

Insert Table 17 about here

Findings and Consequences

BB.   This study, after all hypotheses are examined and their sensitivity are reexamined using firm size, trading volume, and bid-ask spreads sensitivity tests, finds evidence that existence and occurence of U-Shaped curve is proven valid. This means that opening return variance during early trading period is the highest return variance compared to the return variance around lunch break. With the sign of the highest return variance during early trading period, this study concludes that private information arrives at every morning trading session in IDX. This confirmation is also supported by the existence and occurence of high closing return variance around late afternoon trading session. Therefore, U-Shaped curve formula is closing to the complete form, so that it can be concluded that private information always occurs.

CC.   The existence and occurrence of private information arrival is also sharpened by the result of examination of U-Shaped curve which does not occur only during morning trading session. The point is, with all confirmed results of this U-Shaped form, return formulation in U-Shaped curve occurs within sub period of day. This study later found evidence sharpening that private information is revealed impermanent on the IDX' stock price or in short term. This study finds that private information always related to stock price during every stock trading in IDX.

DD.   With the confirmation of U-Shaped curve formula at IDX, this study formulates a trading strategy that can be applied by investors. The investors at IDX could do trading if only they have information, refers to informed investors. This strategy must also be complemented not just with information, but also with strict observed time when return variance is high. This high return variance occurs during early morning trading session and during late afternoon trading session. The investors' prudential behavior is necessary to observe high return variance during early morning trading session and late afternoon trading session along with specific information acquired which is not well known publicly among other investors.

EE.   The timing of expected return gains becomes the second strategy found in this study. The investors who wish to acquire high return should trade during period when the return variance is high, that is during early morning trading session or during late afternoon trading session. However, during all this time, the investors may also experience great losses. Meanwhile, if the investors wish for certain returns but in small number, the investors should trade during around before and after lunch break. The reason is, during around this period, it is proven that lunch break return variance is the lowest compared to other return variance within one day period. This can also be inferred that the period having

the highest return variance refers to the high risk period, whereas the period having low return variance refers to low risk period. The prudential behavior for investors trading during high return variance is absolutely necessary.

FF.　　　　　Sell-buy strategy is the third findings in this study. By maintaining the concept of informed investors, buy strategy can be applied during around lunch break, and sell strategy can be applied during late afternoon trading session or during late morning trading session on the next day. This concept also formulates that buy strategy to hold stock inventory is recommended during period having the lowest return variance. Inversely, sell strategy is recommended to be applied during period having high return variance. This means that investors should wait during early morning trading session on the next day, to see whether there is new information arrival or not. The reasons that support this sell-buy strategy is shown that stock mispricing only occurs during period having high return variance and it is not likely to occur during period having low return variance. The last attention to these all findings is to be considered that private information arrival is not related to stock price permanently, or the relationship between private information and stock price only occurs within period that is not longer than one day.

GG.

5. Conclusion and Limitations

EE.　　This study is able to confirm the existence and occurence of return formulation at IDX in form of U-Shaped curve, as the return variance formulation at other countries stock market. Basically, this study concludes the research findings as follows. *First*, the existence and occurence of private information at IDX is proven valid. *Second*, return variance during morning trading session is the highest value which affect all return variance during morning and afternoon trading sessions. *Third*, U-Shaped curve during morning trading session does not confirmly occur and exist, so that return variance during morning trading session affects all return variance within one day of trading. *Fourth*, the effect of private information arrival occurs within short term.

FF.　　　　　All four conclusions have impacts against trading strategy for investors at IDX. The best strategy that should be applied is: (1) the investors do trading if only they have information, (2) investors who wish for high returns should trade during period having high return variance, that is during early morning trading session or during late afternoon trading session, (3) by maintaining the concept of informed investors, buy strategy may be applied during around lunch break session, and sell strategy may be applied during late afternoon trading session or during early morning trading session on the next day, and (4) investors should keep in their mind that private information arrival does not related to price permanently, or the relationship between private information arrival and stock price only occurs within period that is not longer than one day.

GG.　　　　This study has limitations that may decrease conclusion validity of this study. These limitations are as follow. *First*, this research only used 30 minutes interval data, whereas the price high price instability may occur within 30 minutes. This price variability is not captured within this study. *Second*, this study used sensitivity tests on firm size, trading volume and bid-ask spreads. Further study can be designed by applying trading day and market-up or -down condition. *Third*, this research used all stock within LQ45 list index, so that it only describes the high frequency traded stock. *The Last*, this study assumes and this assumption serves as its limitation. This assumption is that bid-ask spreads is not

based on the information asymmetry concept but transitory component concept instead. The concept of transitory component calculates spread value based on inventory cost and its completion cos**t.**

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Pictures and Tables

Picture 1: Return of 30 minutes interval and its relation with examination

Notes:
OM: open morning**; OEM:** open early morning; **CEM:** close early morning; **OMM:** open mid morning;
CMM: close mid morning; **OLM:** open late morning; **CM:** close morning; **CLM:** close late morning;
OL: open lunch; **CL:** close lunch; **OA:** open afternoon; **CA:** close afternoon

Table 1: Descriptive Statistics

	N($)	N(&)	Mean	Std. Dev.	Min.	Max.	Skewness
return 09.30	10,845	9,956	-0.0009	0.0182	-0.7000	0.3900	-12.5510
return 10.00	10,890	10,067	0.0005	0.0153	-0.5100	0.1200	-4.8460
return 10.30	10,890	9,202	-0.0006	0.0272	-1.3900	0.5100	-22.8740
return 11.00	10,890	8,661	0.0004	0.0312	-0.8500	1.4000	10.7550
return 11.30	10,890	8,329	0.0000	0.0275	-0.7600	0.8400	5.0960
retrun 12.00	8,820	6,483	0.0004	0.0180	-0.3700	0.5300	6.8910
return 13.30	8,820	6,694	-0.0005	0.0189	-0.9700	0.3400	-22.6490
return 14.00	10,890	9,415	-0.0004	0.0202	-0.4100	1.0100	12.7130
return 14.30	10,890	8,700	-0.0004	0.0361	-1.3900	0.8800	-17.0570
return 15.00	10,890	8,478	-0.0005	0.0398	-1.1200	1.3900	6.5380
return 15.30	10,890	8,820	-0.0003	0.0361	-0.7900	1.1200	8.4480
return 16.00	10,890	9,768	0.0042	0.0285	-0.7600	0.8300	1.3820
return 09.30(t+1)	10,845	9,956	-0.0009	0.0182	-0.7000	0.3900	-12.5510

Notes: **N($)**: Number of Observations; **N(&)**: Number of included case

Figure 2: The shift of return mean from full sample

Table 2: Examination of return variance of lunch break session for hypothesis H1

sample period	$\dfrac{V_L^O}{V_L^C} > 1$
3 months	2.8227
6 months	2.7069
9 months	2.7681
12 months	3.9111
calc-t	14.7710 ***

Notes: *significant at level of 10%; **significant at level of 5%; ***significant at of level 1%

Table 3: Examination of return variance for hypothesis H2

sample period	$\dfrac{V_L^C}{V_M^C} < \dfrac{V_L^O}{V_M^O}$	$\dfrac{V_L^C}{V_A^C} < \dfrac{V_L^O}{V_A^O}$
3 months	2.5207	4.5221
6 months	1.1312	5.7505
9 months	0.9765	6.7213
12 months	1.6900	17.5736
calc-t	1.6600	2.5390 *

Notes: *significant at level of 10%; **significant at level of 5%; ***significant at of level 1%

Table 4 The result of return variance examination during only morning trading for hypothesis H3

sample period	$\dfrac{V^C_{MM}}{V^C_{EM}}<1$	$\dfrac{V^C_{EM}}{V^C_{MM}}>1$	$\dfrac{V^O_{EM}}{V^O_{MM}}\leq 1$
3 months	4.1870	0.2975	0.2653
6 months	1.6664	0.6589	1.4598
9 months	1.5247	0.6418	1.4810
12 months	1.5045	0.9126	1.5975
calc-t	4.5400 ⁺⁺	-2.9480 *	-0.5750

Notes: *significant at level of 10%; **significant at level of 5%; ***significant at level of 1%; ⁺significant at level of 10%, ⁺⁺significant at level of 5%, ⁺⁺⁺significant at level of 1%, whose mark + refers to opposite result of that is hypothesized

Table 5 The result of temporary effect examination for hypothesis H4

sample period	$\dfrac{\left(\dfrac{V^O_M}{V^O_A}\right)}{\left(\dfrac{V^C_M}{V^C_A}\right)}>1$	
3 months	1.7940	
6 months	5.0907	
9 months	6.8832	
12 months	10.3987	
calc-t	2.8100 *	

Notes: *significant at level of 10%; **significant at level of 5%; ***significant at level of 1%;

Table 6 The sensitivity tests by firm size (hypothesis H1)

sample period	$\dfrac{V^O_L}{V^C_L}>1$				
	Smallest	B	C	D	Biggest
3 months	1.2116	1.9555	5.7378	2.8754	3.3908
6 months	0.3515	4.3161	12.4527	2.2167	2.3755
9 months	0.3747	4.7212	10.7480	2.3258	2.0142
12 months	0.4177	1.9921	8.9602	5.3706	2.0351
calc-t	-1.9760	3.0880 *	5.9050 ***	2.9740 *	4.5000 **

Notes: *significant at level of 10%; **significant at level of 5%; ***significant at level of 1%

653

Table 7 The sensitivity tests for firm size (hypothesis H2)

sample period	$\dfrac{V_I^c}{V_M^c} < \dfrac{V_I^a}{V_M^a}$				
	Smallest	B	C	D	Biggest
3 months	2.4526	0.9290	4.2691	9.1150	4.3789
6 months	0.1812	1.5418	7.2202	2.0157	1.2140
9 months	0.1713	1.3500	6.2649	1.8579	1.0873
12 months	0.2014	0.7026	5.3865	21.0851	1.1662
calc-t	-0.4380	0.6820	7.5000 ***	1.6640	1.1930

sample period	$\dfrac{V_I^c}{V_A^c} < \dfrac{V_I^a}{V_A^a}$				
	Smallest	B	C	D	Biggest
3 months	0.6016	55.6538	11.2753	3.9962	18.0694
6 months	0.1277	77.4542	18.4022	10.2409	10.2928
9 months	0.1714	54.3502	21.5761	13.8117	9.8875
12 months	0.4690	10.7988	42.4820	18.2633	15.7688
calc-t	-5.7210 ++	3.4770 **	3.3460 **	3.5110 **	6.1650 ***

Notes: *significant at level of 10%; **significant at level of 5%; ***significant at level of 1%; +significant at level of 10%, ++significant at level at 5%, +++significant at level of 1%, whose mark + refers to opposite result of that is hypothesized

Table 8 The sensitivity tests by firm size (hypothesis H3)

sample period	$\dfrac{V_{MM}^c}{V_{FM}^c} < 1$				
	Smallest	B	C	D	Biggest
9 months	5.7789	4.4712	0.5119	17.5757	9.8802
6 months	9.2399	2.5095	0.4006	5.8575	1.9877
9 months	2.4064	2.2961	0.4142	4.0008	1.9591
12 months	2.0501	2.1052	0.4601	4.7095	1.8244
calc-t	9.5500 +++	11.1210 +++	-10.2520 ***	19.7900 +++	8.1850 +++

sample period	$\dfrac{V_{FM}^c}{V_{MM}^c} > 1$				
	Smallest	B	C	D	Biggest
9 months	0.3432	0.0654	2.9169	0.9075	0.9057
6 months	0.2950	0.3172	9.9467	0.2992	0.4181
9 months	0.3383	0.4690	7.0464	0.9433	0.4592
12 months	0.3603	0.8197	5.4814	1.4302	0.4938
calc-t	-47.9000 +++	-9.6910 ++	9.6360 **	-1.4540	-14.2050 +++

Notes: *significant at level of 10%; **significant at level of 5%; ***significant at level of 1%; +significant at level of 10%, ++significant at level at 5%, +++significant at level of 1%, whose mark + refers to opposite result of that is hypothesized

Table 9 The sensitivity tests by firm size (hypothesis H4)

sample period	$\dfrac{\left(\dfrac{V_M^o}{V_A^o}\right)}{\left(\dfrac{V_M^c}{V_A^c}\right)} > 1$				
	Smallest	**B**	**C**	**D**	**Biggest**
3 months	0.2453	59.9062	2.6411	0.4384	4.1264
6 months	0.7049	50.3376	2.5487	5.0806	8.4785
9 months	1.0008	40.2606	3.4440	7.4340	9.0940
12 months	2.3391	15.3701	8.0859	0.8662	13.5216
calc-t	0.1560	4.2250 **	2.4270 *	1.4520	4.0610 **

Notes: *significant at level of 10%; **significant at level of 5%; ***significant at level of 1%;

Table 10 The sensitivity tests by trading volume (hypothesis H1)

sample period	$\dfrac{V_I^o}{V_I^c} > 1$				
	Smallest	**B**	**C**	**D**	**Biggest**
3 months	1.3740	22.6404	2.4002	0.6748	19.3066
6 months	0.9228	0.0522	29.2032	0.7620	9.4588
9 months	0.7625	0.0626	22.5127	0.8191	6.3319
12 months	0.3970	0.0865	14.9673	0.8879	10.3968
calc-t	-0.6710	0.8350	2.8310 *	-4.7440 ++	3.6080 **

Notes: *significant at level of 10%; **significant at level of 5%; ***significant at level of 1%; +significant at level of 10%, ++significant at level at 5%, +++significant at level of 1%, whose mark + refers to opposite result of that is hypothesized

Table 11 The sensitivity tests by trading volume (hypothesis H2)

sample period	$\dfrac{V_I^c}{V_M^c} < \dfrac{V_I^o}{V_M^o}$				
	Smallest	**B**	**C**	**D**	**Biggest**
3 months	0.6774	75.1840	5.6309	1.9603	105.9074
6 months	0.2189	0.0526	175.9089	0.5656	19.1591
9 months	0.1662	0.0548	116.5751	0.3372	10.1968
12 months	0.1093	0.0977	41.2316	0.3937	53.6812
calc-t	-5.4360 ++	0.9500	2.1970	-0.4740	2.1330

sample period	$\dfrac{V_I^c}{V_A^c} < \dfrac{V_I^o}{V_A^o}$				
	Smallest	**B**	**C**	**D**	**Biggest**
3 months	11.2405	108.7516	5.3170	0.1178	96.3584
6 months	4.7845	0.0016	127.2324	0.5436	102.5511
9 months	2.9269	0.0086	81.4198	1.0164	57.1086
12 months	0.8430	0.0078	94.4756	1.9109	65.6738
calc-t	1.7980	0.9680	2.9500 *	-0.2070	7.0880 ***

Notes: *significant at level of 10%; **significant at level of 5%; ***significant at level of 1%; +significant at level of 10%, ++significant at level at 5%, +++significant at level of 1%, whose mark + refers to opposite result of that is hypothesized

Table 12 The sensitivity tests by trading volume (hypothesis H3)

$$\frac{V^C_{MM}}{V^C_{EM}} < 1$$

sample period	Smallest	B	C	D	Biggest
3 months	20.6456	0.7652	10.4065	4.7950	1.7997
6 months	5.3694	1.1528	5.0041	2.2001	1.1906
9 months	5.8719	0.9229	4.2065	1.7900	1.0800
12 months	4.5684	0.8587	4.0348	1.5532	1.2192
calc-t	22.6680[+++]	-1.1500	29.1910[+++]	5.5110[++]	2.7940[+]

$$\frac{V^C_{EM}}{V^C_{MM}} > 1$$

sample period	Smallest	B	C	D	Biggest
3 months	0.0642	8.0047	0.2573	0.5504	1.9417
6 months	0.1129	9.0840	2.2712	0.5728	1.6067
9 months	0.1077	2.2684	2.2571	0.5768	1.5768
12 months	0.1461	2.8707	2.1819	0.6090	4.2161
calc-t	-53.0690[+++]	2.2860[*]	1.4980	-95.0290[+++]	2.1120

$$\frac{V^O_{EM}}{V^O_{MM}} \le 1$$

sample period	Smallest	B	C	D	Biggest
3 months	0.9828	11.0744	0.2292	0.1486	1.8847
6 months	1.1095	9.2056	9.1202	0.9252	1.8945
9 months	1.4096	2.9018	9.0986	1.1709	2.7820
12 months	1.4928	9.2264	2.9788	1.1945	9.3497
calc-t	2.1720	9.9580[+++]	-0.9390	-0.9570	9.8970[+++]

Notes: *significant at level of 10%; **significant at level of 5%; ***significant at level of 1%; [+]significant at level of 10%, [++]significant at level at 5%, [+++]significant at level of 1%, whose mark + refers to opposite result of that is hypothesized

Table 13 The result of sensitivity tests by trading volume (hypothesis H4)

$$\frac{\left(\dfrac{V^O_M}{V^O_A}\right)}{\left(\dfrac{V^C_M}{V^C_A}\right)} > 1$$

Sample period	Smallest	B	C	D	Biggest
3 months	16.5947	1.4465	0.9427	0.0598	0.9098
6 months	21.8603	0.0305	0.7233	0.9611	5.3414
9 months	17.6074	0.0657	0.6984	3.0142	5.6006
12 months	7.7159	0.0797	2.3913	4.8542	1.2225
calc-t	5.0310[**]	-1.7120	0.4320	1.1390	1.7800

Notes: *significant at level of 10%; **significant at level of 5%; ***significant at level of 1%;

Table 14 The sensitivity tests by bid-ask spreads (hypothesis H1)

sample period	$\dfrac{V_L^O}{V_L^C}>1$				
	Smallest	**B**	**C**	**D**	**Biggest**
3 months	3.9703	1.9543	0.8377	0.7066	0.9612
6 months	0.9401	2.0936	0.9879	1.3824	0.8608
9 months	1.0992	2.0491	0.9643	1.3764	0.7908
12 months	1.8875	2.1921	0.9822	0.1856	0.8037
calc-t	1.3980	21.7090 ***	−1.6060	−0.4050	−3.7110 ++

Notes: *significant at level of 10%; **significant at level of 5%; ***significant at level of 1%; +significant at level of 10%, ++significant at level at 5%, +++significant at level of 1%, whose mark + refers to opposite result of that is hypothesized

Table 15 The sensitivity tests by bid-ask spreads (hypothesis H2)

sample period	$\dfrac{V_L^C}{V_M^C}<\dfrac{V_L^O}{V_M^O}$				
	Smallest	**B**	**C**	**D**	**Biggest**
3 months	3.5794	5.6087	0.5788	0.2644	0.6326
6 months	0.2751	1.4733	0.5509	0.6244	0.4183
9 months	0.2951	1.2037	0.4878	0.8219	0.0939
12 months	0.8544	1.6046	0.5294	0.1266	0.0969
calc-t	0.3190	1.4040	−24.1420 +++	−3.3780 ++	−5.2390 ++

sample period	$\dfrac{V_L^C}{V_A^C}<\dfrac{V_L^O}{V_A^O}$				
	Smallest	**B**	**C**	**D**	**Biggest**
3 months	32.8508	0.7880	2.2500	2.6188	4.1973
6 months	1.5757	4.8654	1.7512	3.7360	3.6712
9 months	2.0808	5.3549	2.9388	3.6633	3.0247
12 months	9.5599	8.1038	4.3655	0.0864	3.2344
calc-t	1.4320	2.5040 *	3.2160 **	1.7910	9.7580 ***

Notes: *significant at level of 10%; **significant at level of 5%; ***significant at level of 1%; +significant at level of 10%, ++significant at level at 5%, +++significant at level of 1%, whose mark + refers to opposite result of that is hypothesized

Table 16 The sensitivity tests by bid-ask spreads (hypothesis H3)

$$\frac{V^C_{MM}}{V^C_{EM}}<1$$

sample period	Smallest	B	C	D	Biggest
3months	19.4887	0.7618	2.1189	2.0757	19.0215
6months	4.8169	0.8554	1.6316	2.2552	6.6821
9months	4.1098	0.9266	1.0070	2.2717	7.0789
12months	3.5888	1.5461	1.1853	1.8576	7.0896
calc-t	17.8890 +++	-0.9620	2.9180 +	22.9410 +++	51.9940 +++

$$\frac{V^C_{LM}}{V^C_{MM}}>1$$

sample period	Smallest	B	C	D	Biggest
3months	0.0695	9.6199	0.2914	0.4404	0.0740
6months	0.1150	1.9954	0.5864	0.6529	0.0759
9months	0.1995	1.9857	0.8190	0.8001	0.0870
12months	0.2997	1.2324	0.6780	0.9389	0.0896
calc-t	-23.4800 +++	1.5860	-9.4010 ++	-2.7980 +	-259.9640 +++

$$\frac{V^O_{LM}}{V^O_{MM}}\leq 1$$

sample period	Smallest	B	C	D	Biggest
3months	0.0991	2.8750	0.1184	0.9729	0.0509
6months	0.2144	2.0476	0.7170	9.4165	0.1857
9months	0.2904	1.8579	0.6517	9.5895	0.1895
12months	0.9967	1.5690	0.6056	7.6565	0.1880
calc-t	-2.6190 *	8.1990 +++	-1.9040	0.9150	-2.2900

Notes: *significant at level of 10%; **significant at level of 5%; ***significant at level of 1%; +significant at level of 10%, ++significant at level at 5%, +++significant at level of 1%, whose mark + refers to opposite result of that is hypothesized

Table 17 The result of sensitivity tests by bid-ask spreads (hypothesis H4)

$$\frac{\left(\frac{V^O_M}{V^O_A}\right)}{\left(\frac{V^C_M}{V^C_A}\right)}>1$$

Sample period	Smallest	B	C	D	Biggest
3 months	9.1775	0.1405	3.8876	9.9064	6.6353
6 months	5.7287	3.3073	3.1787	5.9832	8.7773
9 months	7.0501	4.4487	6.0236	4.4570	32.2256
12 months	11.1887	5.0504	8.2458	0.6829	33.3889
calc-t	6.0710 ***	2.0440	3.7900 **	2.2310	2.6510 *

Notes: *significant at level of 10%; **significant at level of 5%; ***significant at level of 1%;

2.5 Corporate Governance

CORPORATE GOVERNANCE AND
PERFORMANCE OF THE LISTED COMPANIES IN TSE

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Abstract

This paper examines the relationship between corporate governance & performance of the listed companies in Tehran Stock Exchange (TSE). Reviewing the literature, four criteria were selected to assess corporate governance, including; Board Size, Proportion of External Members of the Board, Proportion of Common Stocks owned by Major Shareholders & Proportion of Common Stocks owned by Individual Shareholders(Free Float shares) and two criteria to measure performance, including Return on Assets (ROA) and Return on Equity (ROE) . The statistical sample consisted of 71 firms chosen from companies listed in TSE during a 5-year period 2002-2006.

The hypotheses were analyzed by Panel Data regression , F and t-test. The results show that all criteria, except the Proportion of External Members of the Board (hypotheses 2), have a significant relationship with performance.

Introduction

According to the Cadbury committee(1992), some of the features of corporate governance include the presence of external members in the board of directors, separation of the chairman of the board from the CEO, presence of subsidiary board committees (i.e. auditing committee), ownership by CEOs and the proportion of ownership by major stockholders. In the report presented by this committee, it was suggested that in order to perform better, firms should follow certain rules of corporate governance. Although conformance with these rules was optional, it was expected that companies adhere to them and change their structures. Therefore, they were set as a qualification for persisting in Stock Exchange and then listed companies were obliged to

present their procedures of following that in the annual reports. Otherwise they had to disclose the reasons (Laing, Mc. Knight and Weir, 1999).

The Cadbury committee suggested the establishment of a system based on the assumption that external members of the board and subsidiary committees of the board are sensitive to corporate governance. It also accentuated the importance of independence and adequacy of external members. The proposals made by this committee, especially on the appointment of subsidiary committees, were welcomed by the companies (Conyon & Mallin, 1997).

However, very little work has been done on assessing the impact of the establishment of subsidiary committees and its quality on the performance of companies (Dalton et al., 1998).

The primary responsibility of external members is to ensure that CEOs adhere to the guidelines established, for the benefit of shareholders (Fama, 1980). These members have two main characteristics which enable them to perform their supervisory functions, first their independence (Cadbury, 1992) and second their concern for their reputation in the managerial market (Fama & Jensen, 1983).

Although external members of the board benefit from characteristics such as independence and experience, but evidence suggests that these characteristics do not have a positive impact on performance. Results obtained from certain researches suggest that the presence of independent managers may hurt firm performance. Yermack, Agrawal and Knoeber(1998) have discovered a negative relationship between the level of independence experienced by directors and performance . Bhagat and Black (1998) have also reported a similar negative relationship .

Baysinger and Hoskisson(1990); Hermalin and Weisbach (1991) believe that a relationship exists between the composition of the board of directors and firm performance (for a period of one year) . However, Baysinger and Butler (1985) have offered, with a ten year period delay, evidence on the presence of a relationship between the mentioned factors .

Based on the literature, little concurrence exists on the relationship between the number of external members and firm performance; therefore it seems that more research has to be carried out on this subject.

Where chairman of the board of directors and the CEO are the same person, supervision will encounter serious obstacles. According to Fama and Jensen(1997), if the company manager who is also the chairman of the board controls the board of directors, supervision will be very difficult . The Cadbury committee(1992) supported this and claimed that such a fact would be quite inappropriate since it would give one person too much decision making power .

However, very little evidence supports this claim. Most of the researches carried out in this regard do not indicate an adverse relationship between joining the responsibilities of the CEO and the chairman of the board with firm performance (Brichley et al.,1999; Theodorou & Vafeas, 1998; Dalton et al., 1998; Weir & Lainy, 1999).

Dahya et al(1996) observed in a small population of British companies that the stock market shows a significant positive reaction to the separation of the chairman from the CEO. Moreover companies that did not have such a situation presented a weaker performance as compared to the years when the two responsibilities were carried out by the same person. They have, however, carried out their research during U.K.'s period of economic crisis when other factors could have possibly affected performance as well. In the proposals presented by the Cadbury committee, however, only little evidence is present to indicate that the segregation of these two responsibilities hurts performance.

The other proposal offered by the committee is to establish a subsidiary committee of the board of directors (auditing committee) in all listed companies. The responsibilities of the auditing committee include signing agreements with independent auditors, reviewing the financial statements of a company and to make suggestions based on the findings of internal auditors. According to the Cadbury committee, the auditing committee should have a minimum of three members solely from external CEOs, which means that the majority of the members should be independent.

There are few researches on the impact of the auditing committee on performance. Wild(1994) discovered that the market reacts favorably to income reports received subsequent to the formation of the auditing committee , while Klein(1998) observed that the presence of an auditing committee has no impact whatsoever on market performance criteria. Results of his study indicated that variations in the composition of the auditing committee do not result in abnormal yield .

The higher the ownership of major shareholders, the higher the agency expenses due to weaker firm performance. Therefore, increasing ownership interests of major

shareholders raises the level of motivation for supervision. Evidence approves the presence of a relationship between increasing the number of individual shareholders with better performance (Schleifer & Vishny, 1986; Leahy & Leech, 1999).

If the internal strategies of a firm are weak, the market can control it through its governance system. Inappropriate strategies will lead the company to a weak performance (Fama, 1980).

In the present research, the relationship between some of the corporate governance factors including the structure of the board of directors, proportion of ownership by major shareholders and the amount of free float shares, with the performance of listed companies in TSE was studied.

History of Research

Sarkar(2008) studied the criteria used in determining incentives and salaries for CEOs with a highlight on the relationship between salaries and performance. The sample included 500 companies studied for the four quarters of the year 2003. The performance criteria included firm's book to market value, Tobin's Q, asset return and added value of assets.

Results indicated that with regards to the composition of the board of directors, external members do not play a strong supervisory role. When the company has no external members, the level of salary paid to managers was higher. Although, in companies lacking external members, a higher coordination was observed between CEOs and shareholders.

Krivogorski (2007) studied the relationship between ownership and the structure of the board of directors with performance of the European continent. The research sample consisted of 87 European companies between the years 2000-2001. Criteria selected for assessing performance included asset return, return on capital and book to market value of the company. The first couple of criteria are accounting ratios and the last one is a market ratio.

Independent variables have been classified into two groups namely, indices to measure the board composition and empirical indices to calculate ownership concentration. Indices used for the composition of the board of directors include the proportion of internal members, proportion of external members within the board of directors, proportion of highly educated CEOs within the board and separation of the chairman and

the CEO, and empirical indices to measure ownership concentration include the proportion of inside ownership, proportion of family ownership, proportion of inherent ownership and the proportion of ownership by block shareholders. Control variables are company age (number of years that company's stocks have been exchanged within markets), operational leverage, company size and growth. To test the hypotheses, Pierson's correlation was used.

Results reflected a positive relationship between the level of ownership by block and inherent shareholders with the company's profitability ratios, and to the same extent a positive relationship existed between number of external members within the board with profitability ratios. However, no relationship has been observed in European corporations between internal members or internal ownership with profitability.

Shijun(2007) investigated the relationship between board size and variability of firm performance. The research sample consisted of 1252 companies studied between 1996 and 2004. The study used stock returns to measure stock performance, annual return on assets to measure accounting performance, Tobin's Q for measuring corporate performance. The board size was defined as the number of CEOs present within the board and the proportion of independent CEOs was used to measure the composition 0f the board.

The study was performed not only for each company each year but also for panel data and based on Glejser tests (1969). Results indicated that a relationship exists between a large board of directors with less extraordinary items, inaccuracy of predictions and lower R&D expenses. Previous researches indicated that a large board of directors may be optimal in certain situations and that a negative relationship between the board size and corporate performance may be due to other external factors (Harris & Raviv, 2006; Raheja, 2005). Results of this research has complimented previous studies and indicated that corporate performance varies with board size .

Tang(2007) has studied 245 small companies in the United States between the year 2000 and 2004 to examine the mutual effects of corporate governance on performance.

Independent variables of the research included the following:

1- An independent board of directors (with criteria such as the right to fill in the position of CEO and the proportion of external members) each separately examined.

663

2- Ownership of the CEO

3- Incentives based on the performance of the CEO

The dependent variable of the research has been firm performance determined through Tobin's Q. The control variable's been company size (total assets) and industry type.

Results reflected a mutual and significant relationship between an independent board of directors, company leverage, ownership by the CEO and incentives based on performance. Considering the influence of corporate governance on performance, leverages reduced company value to a certain extent; while incentives paid to CEOs based on performance had a positive relationship with firm performance. Moreover, a weak relationship was observed between an independent board of directors and firm performance.

Omran(2007) studied on the effects of ownership concentration on performance in capital markets in Arabian countries. The sample consisted of 304 companies from countries such as Egypt, Jordan, Oman and Tunis between the years 2000 and 2002. The Panel regression method was used to test the hypotheses and assessment criteria involved return on assets, return on capital and Tobin's Q. In this research, ownership concentration has been defined as the percentage of stocks held by three major block investors. Block investors refer to those investors holding more than 10 percent of the company's shares. Results reflected that ownership concentration has a negative relationship with legal support and does not distinctly reflect a specific influence on the firm profitability and performance. Moreover, separation of the CEO and the chairman of the board does not have a meaningful effect on firm performance. However the presence of block investors and the separation of the CEO and the chairman does reflect a positive relationship between Tobin's Q and ownership concentration. Large companies and those that are less limited in their economic transactions report a higher profitability.

Method of Research

Research variables have been divided into two categories. The first category involves criteria for corporate governance while the second includes criteria for operational performance. There are four criteria for corporate governance, namely, "Board Size", "Proportion of External Members of the Board", "Proportion of Common Stocks owned

by Major Shareholders" and "Proportion of Common Stocks owned by Individual Shareholders(Free Float shares)" which are also independent variables in this study. Operational performance with the ROA and ROE criteria, are the dependent variables of the research.

- **Board Size:** The number of CEOs (whether externally or internally involved) that are members of the board of directors as well (Jong et al., 2002).

- **External member of the Board:** A part time member of the board of directors that do not hold an executive position within the company and do not receive monthly or annual salaries. The proportion of these members is obtained by dividing the number of external members present at the Annual General Council by the total number of members (Jong et al., 2002).

- **Major Shareholders:** Shareholders which own at least 5% of the marketable shares of the company (Jong et al., 2002; Mahavarpour, 2007).

- **Free Float Shares:** To calculate the number of free float shares, shares owned by major and inherent shareholders are deducted from the total number of shares (Abdoh Tabrizi, 2003).

Jong et al (2002), have used the following model to examine the effects of corporate governance on firm performance:

Performance = f (Corporate governance variables , Control variables)

The model used criteria such as the return on equity, Tobin's Q and return on assets for evaluating firm performance. Moreover variables such as the size of the board , proportion of external members of the board, proportion of ownership by major shareholders, proportion of ownership by individual shareholders (free float shares) and proportion of ownership by institutional shareholders were used as indices for corporate governance. Company value and leverage were the control variables of the model. The regression model was presented as follows:

Performance $_{i,t}$ = β0 + β1 BRDSIZE + β2 BRDEXT $_{i,t}$ + β3 FINAN $_{i,t}$ + β4 INDIV $_{i,t}$ + β5 INDUS $_{i,t}$ + β6 LOG(BVTA) $_{i,t}$ + β7 LEV $_{i,t}$ + € $_{i,t}$

Performance: Firm performance

BRDSIZE: Board Size

BRDEXT: proportion of external members of the board

FINAN: Proportion of ownership by major shareholders

INDIV: Proportion of ownership by individual shareholders (proportion of Free Float Shares)

INDUS: Proportion of ownership by institutional shareholders

LOG (BVTA): Logarithm of the book value of assets

LEV: Leverage

The method of research selected is based on the model presented by Jong et. al. to evaluate firm performance which would be the dependent variable in the study, two criteria were selected including the return on equity and return on assets. This has been due to the fact that the information required for the calculation of the Tobin's Q had not been available. Independent variables of the research included board size, percentage of external members of the board, proportion of ownership by major shareholders , and the proportion of ownership by individual shareholders (percentage of Free Float Shares).

Scope of Subject: The scope of the subject in this research is the effects of corporate governance on the performance of companies listed in Tehran Stock Exchange.

Scope of Research: Companies listed in Tehran Stock Exchange.

Time Scope of Research: The time scope selected for this research was a five year period between the years 2002 to 2006.

Out of the 421 companies in the primary population, 71 were selected as the final sample.

Upon collection of information, related folders were designed in the excel format and the variables calculates through SPSS and Eviews software.

In the present research, data for 71companies was collected for a period of 5 years. Therefore, it was quite possible that a correlation existed between the data and that data were not independent of each other, and subsequently data independence which was one of the regression hypotheses could not be valid. Thus the Panel Data regression model (whole-piece data) was used to estimate coefficients and to assess the model.

Considering that the normality of distribution of data is a pre-requisite for the regression model, the Kolmogorov-Smirnov test was used for this study.

To apply general regression analysis, the variance analysis method was used and in this method F tests were applied. General regression implies the simultaneous evaluation of all regression variables except fixed amounts.

The F amount for the regression model of the sample was obtained from the following equation:

Data Analysis

First Hypothesis: A significant relationship exists between firm performance and the Board Size.

Criteria selected for performance included ROA and ROE indices. Therefore the hypothesis was divided into two subsidiary hypotheses independent of each other:

A. A significant relationship exists between the ROA and the Board Size.

Regression running for this hypothesis is as follows:

$$ROA_{i,t} = \beta_0 + \beta_1 \, BRDSIZE + \beta_2 \, LOG(BVTA_{i,t}) + \beta_3 \, LEV_{i,t} + €$$

ROA: Return on Assets

BRDSIZE: Board Size

LOG (BVTA): Logarithm of the book value of assets

LEV: Leverage

Results from testing the hypotheses were presented in Table 1.

Table 1: Statistical results of the model for ROA (2002-2006)

Durbin-Watson Stat	Prob(F)	F	R^2	R	Prob(t)	T	β	Variable
					0.9317	-0.0858	-0.0282	Intercepts
					0.0014	-3.2194	-0.1780	Board Size
1.7515	0.0000	14.7013	0.1054	0.1131	0.9781	0.0274	0.0000	Company Size
					0.0000	-6.0409	-1.2990	Financial Leverage

Since the amount reflected for Prob(F) is less than 0.05, the regression can be considered as significant. This means that coefficients of regression variables were not simultaneously zero. Moreover the amount reflected Prob(t) for Board Size and financial leverage was less than 0.05, meaning that the coefficients of these variables are significant and that the Board Size affects ROA .

R^2 is approximately equal to 11% , meaning that 11 percent of the changes in ROA would be explained through the independent variable called the Board Size.

The final running of the regression model resulted in the following equation:

$$ROA_{i,t} = - 0,0282 + - 0,1780 \text{ BRDSIZE} + -1,2990 \text{ LEV}_{i,t}$$

Since the slope (β_1) is negative and equal to 0.1780; therefore changes in ROA are not parallel with changes in the Board Size and one unit of change in the Board Size would result in 0.1780 units of change in ROA.

The Durbin-Watson parameter is equal to 1.7515 which is between the 1.5 and 2 range. Therefore the probability of a correlation between the remainders is null, meaning that the remainders are independent of each other.

B. A significant relationship exists between ROE and the Board Size.

Regression running for this hypothesis is as follows:

$$ROE_{i,t} = \beta_0 + \beta_1 \text{ BRDSIZE} + \beta_2 \text{ LOG}(BVTA_{i,t}) + \beta_3 \text{ LEV}_{i,t} + €$$

ROE: Return on Equity

Results from testing the hypotheses were presented in Table 2.

Table 2: Statistical results of the model for ROE (2002-2006)

Durbin-Watson Stat	Prob(F)	F	R^2	R	Prob(t)	T	β	Variable
1.6561	0.0002	6.8454	0.0478	0.0560	0.6444	-0.4619	-0.2016	Intercepts
					0.0016	-3.1771	-0.2310	Board Size
					0.0810	1.7503	0.0000	Company Size
					0.0075	2.6875	0.7759	Financial Leverage

Since the amount reflected for Prob(F) is less than 0.05, the regression can be considered as significant. This means that coefficients of regression variables were not simultaneously zero. Moreover the amount reflected Prob(t) for Board Size and Financial

Leverage was less than 0.05, meaning that the coefficients of these variables are significant and that the Board Size affects ROE .

R^2 is approximately equal to 4%, meaning that 4 percent of the changes in ROE would be explained through the independent variable called the Board Size.

The final running of the regression model resulted in the following equation:

ROE $_{i,t}$ = - 0.2016 + 0.2310 BRDSIZE + 0.7759 LEV $_{i,t}$

Since the slope (β_1) is negative and equal to 0.2310; therefore changes in ROE are not parallel with changes in the Board Size and one unit of change in the Board Size would result in 0.2310 units of change in ROE, if operational leverage is kept constant.

The Durbin-Watson parameter is equal to 1.6561 which is between the 1.5 and 2 range. Therefore the probability of a correlation between the remainders is null, meaning that the remainders are independent of each other.

Second Hypothesis: A significant relationship exists between firm performance and the proportion of external members of the board.

The hypothesis was again divided into two subsidiary hypotheses using both ROA and ROE as operational indices; the two new hypotheses have been tested independently.

A. A significant relationship exists between ROA and the proportion of external members of the board.

Regression running for this hypothesis is as follows:

ROA $_{i,t}$ = β_0 + β_1 BRDEXT $_{i,t}$ + β_2 LOG(BVTA) + β_3 LEV $_{i,t}$ + $\epsilon_{i,t}$

BRDEXT: the proportion of external members of the board

Results from testing the hypotheses were presented in Table 3.

Table 3: Statistical results of the model for ROA (2002-2006)

Durbin-Watson Stat	Prob(F)	F	R^2	R	Prob(t)	T	β	Variable
					0.0000	-5.2298	-0.9516	Intercepts
1.7479	0.0000	11.5894	0.0834		0.8031	-0.2496	-0.0454	Proportion of External Members of the Board

| | | | | | 0.9111 | -0.1118 | 0.0000 | Company Size |
| | | | | | 0.0000 | -5.7546 | -1.2424 | Financial Leverage |

Since the amount reflected for Prob(F) is less than 0.05, the regression can be considered as significant. This means that coefficients of regression variables were not simultaneously zero. Moreover the amount reflected Prob(t) for the proportion of External Members and Company Size was more than 0.05, meaning that the coefficients of these variables are not significant and that the proportion of external members of the board does not affect ROA.

The final running of the regression model resulted in the following equation:

$$ROE_{i,t} = -0.9516 + -1.2424 \, LEV_{i,t}$$

Since the independent variable is not significant, therefore the estimated model includes a control variable called the operational leverage. Therefore changes in ROA cannot be predicted.

The Durbin-Watson parameter is equal to 1.7515 which is between the 1.5 and 2 range. Therefore the probability of a correlation between the remainders is null, meaning that the remainders are independent of each other.

B. A significant relationship exists between ROE and the proportion of external members of the board.

Regression running for this hypothesis is as follows:

$$ROE_{i,t} = \beta_0 + \beta_1 \, BRDEXT_{i,t} + \beta_2 \, LOG(BVTA) + \beta_3 \, LEV_{i,t} + \text{€}_{i,t}$$

BRDEXT: the proportion of external members of the board.

Results from testing the hypotheses were presented in Table 4.

Table 4: Statistical results of the model for ROE (2002-2006)

Durbin-Watson Stat	Prob(F)	F	R^2	R	Prob(t)	T	β	Variable
					0.0000	-6.1267	-1.4289	Intercepts
					0.9765	0.0295	0.0066	Proportion of External Members

								of the Board
1.6532	0.0058	4.2461	0.0271	0.0354	0.0614	1.8765	0.0000	Company Size
					0.0041	2.8862	0.8278	Financial Leverage

Since the amount reflected for Prob(F) is less than 0.05, the regression can be considered as significant. This means that coefficients of regression variables were not simultaneously zero. Moreover the amount reflected Prob(t) for the proportion of external members of the board and company size was more than 0.05, meaning that the coefficients of these variables are not significant and that the proportion of external members of the board does not affect ROA.

The final running of the regression model resulted in the following equation:

$ROE_{i,t} = -1.4289 + 0.8278\ LEV_{i,t}$

Since the independent variable is not significant, therefore the estimated model includes a control variable called the operational leverage. Therefore changes in ROE cannot be predicted.

The Durbin-Watson parameter is equal to 1.6532 which is between the 1.5 and 2 range. Therefore the probability of a correlation between the remainders is null, meaning that the remainders are independent of each other.

Third Hypothesis: A significant relationship exists between firm performance and the proportion of common stocks owned by major shareholders.

The indices used for measuring performance were ROA and ROE. Therefore the hypothesis was again divided into two subsidiary hypotheses which have been tested independently.

   A. A significant relationship exists between ROA and the proportion of common stocks owned by major shareholders.

Regression running for this hypothesis is as follows:

$ROA_{i,t} = \beta_0 + \beta_1\ FINAN_{i,t} + \beta_2\ LOG(BVTA) + \beta_3\ LEV_{i,t} + \epsilon_{i,t}$

FINAN: the proportion of common stocks owned by major shareholders

Results from testing the hypotheses were presented in Table 5.

Table 5: Statistical results of the model for ROA (2002-2006)

Durbin-Watson Stat	Prob(F)	F	R^2	R	Prob(t)	T	β	Variable
1.6532	0.0058	4.2461	0.0271	0.0354	0.0000	-6.1267	-1.4289	Intercepts
					0.9765	0.0295	0.0066	Proportion of common stocks owned by Major Shareholders
					0.0614	1.8765	0.0000	Company Size
					0.0041	2.8862	0.8278	Financial Leverage

Since the amount reflected for Prob(F) is less than 0.05, the regression can be considered as significant. This means that coefficients of regression variables were not simultaneously zero. Moreover the amount reflected Prob(t) for proportion of common stocks owned by major shareholders and financial leverage was less than 0.05, meaning that the coefficients of these variables are significant and that the proportion of stocks owned by major shareholders affects ROA.

R^2 is approximately equal to 13%, meaning that 13 percent of the changes in ROA would be explained through the independent variable called the proportion of common stocks owned by major shareholders.

The final running of the regression model resulted in the following equation:

$$ROA_{i,t} = -1.8602 + 0.0115\ FINAN_{i,t} + 1.3453\ LEV_{i,t}$$

Since the slope (β_1) is positive and equal to 0.0115; therefore changes in ROA are not parallel with changes in the proportion of common stocks owned by major shareholders and one unit of change in the proportion would result in 0.0115 units of change in ROA, if operational leverage is kept constant.

The Durbin-Watson parameter is equal to 1.7571 which is between the 1.5 and 2 range. Therefore the probability of a correlation between the remainders is null, meaning that the remainders are independent of each other.

B. A significant relationship exists between ROE and the proportion of common stocks owned by major shareholders.

Regression running for this hypothesis is as follows:

$$\text{ROE}_{i,t} = \beta_0 + \beta_1 \text{FINAN}_{i,t} + \beta_2 \text{LOG(BVTA)} + \beta_3 \text{LEV}_{i,t} + \text{\euro}_{i,t}$$

FINAN: the proportion of common stocks owned by major shareholders

Results from testing the hypotheses were presented in Table 6.

Table 6: Statistical results of the model for ROE (2002-2006)

Durbin-Watson Stat	Prob(F)	F	R^2	R	Prob(t)	T	β	Variable
					0.0000	-7.6075	-2.4153	Intercepts
					0.0002	3.7741	0.0128	Proportion of common stocks owned by Major Shareholders
1.6163	0.0000	10.0013	0.0718	0.0798	0.0565	1.9133	0.0000	Company Size
					0.0102	2.5834	0.7295	Financial Leverage

Since the amount reflected for Prob(F) is less than 0.05, the regression can be considered as significant. This means that coefficients of regression variables were not simultaneously zero. Moreover the amount reflected Prob(t) for proportion of common stocks owned by major shareholders and financial leverage was less than 0.05, meaning that the coefficients of these variables are significant and that proportion of common stocks owned by major shareholders affects ROE.

R^2 is approximately equal to 7%, meaning that 7 percent of the changes in ROE would be explained through the independent variable called the proportion of common stocks owned by major shareholders.

The final running of the regression model resulted in the following equation:

$$\text{ROE}_{i,t} = -2.4153 + 0.0128 \text{FINAN}_{i,t} + 0.7295 \text{LEV}_{i,t}$$

Since the slope (β_1) is positive and equal to 0.0128; therefore changes in ROE are parallel with changes in the proportion of common stocks by Major Shareholders and one unit of change in the proportion would result in 0.0128 units of change in ROE, if operational leverage is kept constant.

The Durbin-Watson parameter is equal to 1.6163 which is between the 1.5 and 2 range. Therefore the probability of a correlation between the remainders is null meaning that the remainders are independent of each other.

Fourth Hypothesis: A significant relationship exists between firm performance and the proportion of common stocks owned by individual shareholders (Free Float Shares).

The hypothesis was again divided into two subsidiary hypotheses using both ROA and ROE as operational indices; the two new hypotheses have been tested independently.

- A significant relationship exists between ROA and the proportion of common stocks owned by individual shareholders (Free Float Shares).

- Regression running for this hypothesis is as follows:

$$ROA_{i,t} = \beta_0 + \beta_1\ INDIV_{i,t} + \beta_2\ LOG(BVTA) + \beta_3\ LEV_{i,t} + \text{€}_{i,t}$$

INDIV: the proportion of common stocks owned by individual shareholders (Free Float Shares)

Results from testing the hypotheses were presented in Table 7.

Table 7: Statistical results of the model for ROA (2002-2006)

Durbin-Watson Stat	Prob(F)	F	R^2	R	Prob(t)	T	β	Variable
1.7569	0.0000	19.2220	0.2089	0.2204	0.0223	-2.3030	-0.3814	Intercepts
					0.0007	-3.4286	-0.0093	Proportion of Free Float Shares
					0.9740	-0.0326	0.0000	Company Size
					0.0000	-7.7845	-1.8487	Financial Leverage

Since the amount reflected for Prob(F) is less than 0.05, the regression can be considered as significant. This means that coefficients of regression variables were not simultaneously zero. Moreover the amount reflected Prob(t) for the proportion of common stocks owned by individual shareholders and financial leverage was less than 0.05, meaning that the coefficients of these variables are significant and that the proportion of free float shares affects ROA. R^2 is approximately equal to 21% meaning that 21 percent of the changes in ROA would be explained through the independent variable called the proportion of free float shares.

The final running of the regression model resulted in the following equation:

$$ROA_{i,t} = -0.3814 + -0.0093\ INDIV_{i,t} + -1.8487\ LEV_{i,t}$$

Since the slope (β_1) is negative and equal to 0.0093; therefore changes in ROA are not parallel with changes in the proportion of free float shares and one unit of change in the proportion of free float shares would result in 0.0093 units of change in ROA, if operational leverage is kept constant.

The Durbin-Watson parameter is equal to 1.7569 which is between the 1.5 and 2 range. Therefore the probability of a correlation between the remainders is null, meaning that the remainders are independent of each other.

A. A significant relationship exists between ROE and the proportion of free float shares.

Regression running for this hypothesis is as follows:

$$ROE_{i,t} = \beta_0 + \beta_1\ INDIV_{i,t} + \beta_2\ LOG(BVTA) + \beta_3\ LEV_{i,t} + \mathcal{E}_{i,t}$$

INDIV: the proportion of common stocks owned by individual shareholders (free float shares)

Results from testing the hypotheses were presented in Table 8.

Table 8: Statistical results of the model for ROE (2002-2006)

Durbin-Watson Stat	Prob(F)	F	R^2	R	Prob(t)	T	β	Variable
1.6474	0.0408	2.8060	0.0254	-0.0394	0.0010	-3.3399	-0.7796	Intercepts
					0.0172	-2.4016	-0.0090	Proportion of Free Float Shares
					0.2579	1.1346	0.0000	Company Size
					0.6823	0.4098	0.1398	Financial

							Leverage

Since the amount reflected for Prob(F) is less than 0.05, the regression can be considered as significant. This means that coefficients of regression variables were not simultaneously zero. Moreover the amount reflected Prob(t) for the proportion of free float shares and financial leverage was less than 0.05, meaning that the coefficients of these variables are significant and that the ratio of free float shares affects ROE.

R^2 is approximately equal to 3% meaning that 3 percent of the changes in ROE would be explained through the independent variable called the proportion of free float shares.

The final running of the regression model resulted in the following equation:

$$\text{ROE}_{i,t} = -0.7796 +- 0.0090 \ \text{INDIV}_{i,t}$$

Since the slope (β_1) is negative and equal to 0.0090; therefore changes in ROE are not parallel with changes in the proportion of free float shares and one unit of change in the proportion of free float shares would result in 0.0090 units of change in ROE.

The Durbin-Watson parameter is equal to 1.6474 which is between the 1.5 and 2 range. Therefore the probability of a correlation between the remainders is null, meaning that the remainders are independent of each other.

General Regression Tests

The general regression was presented as follows:

$$\text{Performance}_{i,t} = \beta0 + \beta_1 \ \text{BRDSIZE}_{i,t} + \beta_2 \ \text{BRDEXT}_{i,t} + \beta_3 \ \text{FINAN}_{i,t} + \beta_4 \ \text{INDIV}_{i,t} + \beta_5 \ \text{LOG(BVTA)}_{i,t} + \beta_6 \ \text{LEV}_{i,t} + \epsilon_{i,t}$$

Since information relating to free float shares have been available since the year 2004, the research was confined to the years 2004-2006. Performance criteria used in the research were ROA and ROE, therefore the general regression equation has been defined as follows:

A) $\text{ROA}_{i,t} = \beta_0 + \beta_1 \ \text{BRDSIZE}_{i,t} + \beta_2 \ \text{BRDEXT}_{i,t} + \beta_3 \ \text{FINAN}_{i,t} + \beta_4 \ \text{INDIV}_{i,t} + \beta_5 \text{LOG(BVTA)}_{i,t} + \beta_6 \ \text{LEV}_{i,t} + \epsilon_{i,t}$

B) $\text{ROE}_{i,t} = \beta_0 + \beta_1 \ \text{BRDSIZE}_{i,t} + \beta_2 \ \text{BRDEXT}_{i,t} + \beta_3 \ \text{FINAN}_{i,t} + \beta_4 \ \text{INDIV}_{i,t} + \beta_5 \ \text{LOG(BVTA)}_{i,t} + \beta_6 \ \text{LEV}_{i,t} + \epsilon_{i,t}$

Results from testing regression A have been reflected in the Table 9.

Table 9: Statistical results of the general model for ROA (2002-2006)

Durbin-Watson Stat	Prob(F)	F	R^2	R	Prob(t)	t	β	Variable
1.637	0.00	11.872	0.241	0.263	0.733	0.613	-0.209	Intercepts
					0.346	0.004	-0.004	Proportion of Free Float Shares
					0.013	0.005	0.011	Proportion of common stocks owned by Major Shareholders
					0.002	0.079	-0.249	Board Size
					0.686	0.245	0.099	Proportion of External Members of the Board
					0.809	0.00	0.00	Company Size
					0.00	0.238	-1.910	Financial Leverage

Since the amount reflected for Prob(F) is less than 0.05, the regression can be considered as significant. This means that coefficients of regression variables were not simultaneously zero. Moreover the amount reflected Prob(t) for the proportion of stocks owned by Major Shareholders and the Board Size was less than 0.05, meaning that the coefficients of these variables are significant and that the proportion of stocks owned by Major Shareholders and the Board Size affects ROA.

R^2 is approximately equal to 24%, meaning that 24 percent of the changes in ROA would be explained through the independent variables called the proportion of stocks owned by Major Shareholders and the Board Size.

The final running of the regression model resulted in the following equation:

$ROA_{i,t}$ = -0.249 $BRDSIZE_{i,t}$ + 0.011 $FINAN_{i,t}$ + -1.910 $LEV_{i,t}$

Since the slope (β_1) is negative and equal to 0.249; therefore changes in ROA are not parallel with changes in Board Size and one unit of change in the Board Size would result in 0.249 units of change in ROA.

The Durbin-Watson parameter is equal to 1.637 which is between the 1.5 and 2 range. Therefore the probability of a correlation between the remainders is null, meaning that the remainders are independent of each other.

Results from testing regression B have been presented in Table 10.

Durbin-Watson Stat	Prob(F)	F	R^2	R	Prob(t)	t	B	Variable
					0.311	1.074	-1.090	Intercepts
					0.935	0.005	0.00	Proportion of Free Float Shares
					0.011	0.007	0.017	Proportion of stocks owned by Major Shareholders
1.996	0.00	22.278	0.062	0.089	0.049	0.138	-0.269	Board Size
					0.702	0.312	0.120	Proportion of External Members of the Board
					0.241	0.00	0.00	Company Size
					0.793	0.346	0.091	Financial Leverage

Since the amount reflected for Prob(F) is less than 0.05, the regression can be considered as significant. This means that coefficients of regression variables were not simultaneously zero. Moreover the amount reflected Prob(t) for the proportion of stocks owned by Major Shareholders and the Board Size was less than 0.05, meaning that the coefficients of these variables are significant and that the proportion of stocks owned by Major Shareholders and the Board Size affects ROE.

R^2 is approximately equal to 6%, meaning that 6 percent of the changes in ROE would be explained through the independent variables called the proportion of stocks owned by Major Shareholders and the Board Size.

The final running of the regression model resulted in the following equation:

$$ROE_{i,t} = -0.269 \ BRDSIZE_{i,t} + 0.017 \ FINAN_{i,t}$$

Since the slope (β_1) is negative and equal to 0.269; therefore changes in ROE are not parallel with changes in Board Size and one unit of change in the Board Size would result in 0.269 units of change in ROE.

The Durbin-Watson parameter is equal to 1.996 which is between the 1.5 and 2 range. Therefore the probability of a correlation between the remainders is null, meaning that the remainders are independent of each other.

Conclusion

The present research attempted to discover a relationship between criteria selected for corporate governance and performance. For this purpose research hypotheses were designed using four criteria for corporate governance and two indices for measuring performance. Results from testing the hypotheses reflected that except for the relationship between the proportion of External Members of the Board with performance (second hypothesis), the other relationships are significant.

It seems that even though the presence of External Members in board composition should enhance performance; in Iran due to the short history of corporate governance, this issue has not yet been fully understood and/or executed. In previous studies performed in Iran, same results have been achieved (Rezayi, 2007; Ghanbari, 2007).

In other countries as well, most studies have shown a significant relationship between the presence of External Members of the Board and firm performance (Dehaene, 2001; Lefort et al., 2007; Krivogorsky, 2007). This may be due to the long history of applying corporate governance in these countries.

Results from applying the general regression tests indicate that the variables named the proportion of Free Float shares and the proportion of External Members of the Board do not influence firm performance. It seems that the two most significant factors in the issue of corporate governance, that is the presence of external Members in the composition of the board and Free Float shares have not yet had an executive effect, and thus do not influence firm performance.

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CORPORATE GOVERNANCE AND BOARD PERFORMANCE: EVIDENCE FROM PUBLIC LISTED COMPANIES IN MALAYSIA

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ABSTRACT

This study examines the relationship between internal corporate governance mechanisms and board performance for a sample of 112 companies listed on Bursa Malaysia. Board performance is measured in terms of board of directors' participation in executing their roles in the year 2006. The corporate governance mechanisms considered in this study are board attributes and managerial ownership. The relationship between corporate governance and board performance shows non-independent non-executive directors and managerial ownership are significantly related to strategy, management oversight and performance evaluation roles. Multiple directorships are found negatively related to strategy roles whilst independent board leadership is negatively related to management oversight board. Only managerial ownership is found to be related to service roles. To some extent, corporate governance mechanisms do affect board performance of Malaysian listed companies. Some findings have implications to the revised code of corporate governance.

Keywords: governance mechanisms, board attributes, board performance.

Introduction

Due to weak market control in emerging countries, internal corporate governance mechanisms play a vital role in corporate governance of emerging markets (Lei & Song, 2004). Two important internal corporate governance mechanisms are board of directors (BOD) and directors' shareholding. Board characteristics and ownership structure are considered to have influence on the decisions made by the managers (Lemmons & Lins,

2003). Firm's ownership structure is said to be the primary determinant of the extent of agency problems between controlling insiders and outside investors.

However, having good corporate governance (board conformance) does not necessarily ensure high board performance as the design of internal mechanisms of a firm is based on company's needs (CMA, 2002; Nicholson & Kiel, 2004). In addition, emphasis on specific role varies depending on the inputs (Nicholson & Kiel, 2004). It is expected that the corporate governance mechanisms would have some impact on the roles played by the board of directors (a proxy of board performance). Whether the board can perform well or not will depend on the corporate governance mechanisms adopted. Thus, the objective of the present study is to examine the impact of internal corporate governance mechanisms (BOD attributes and directors' shareholding) on board performance. The findings of this study would provide some evidence on the implication of some recommendations of the revised code of corporate governance (revised code) in 2007 on the effectiveness of board performance.

Review of Literature

Corporate Governance in Malaysia

Efforts to improve corporate governance practices in public listed companies in Malaysia started in 1987 with the establishment of Federation of Public Listed Companies Bhd (FPLC) which was recognized as the official spoke person for PLCs in Malaysia. The establishment of audit committee in a company was made mandatory by the KLSE Listing Requirements in 1994. However, the emphasis on corporate governance practices was only highlighted after the Asian Financial Crisis 1997 with the introduction of Malaysian Code of Corporate Governance (MCCG Code) in 1999. The purpose of the code is to set out principles and best practices on structures and processes that companies may use to achieve optimal governance framework.

683

Public companies are required to adhere to the principles of the code based on varying circumstances of individual companies. The code became effective to public listed companies after the revamp of KLSE Listing Requirements in 2001. Accordingly, Bursa Malaysia has made it mandatory for public companies to adhere to Chapter 15 of Corporate Governance related to Directors, Audit Committee, Auditors and Corporate Governance Disclosure.

The MCCG Code was revised in 2007 with the aim to strengthen the roles and responsibilities of the BOD and audit committee to ensure they can discharge their duties effectively (SC, 2007). Among other amendments, the revised code places importance on the process carried out by the nominating committee in evaluating members of the board. The revised code requires the board to properly document issues and decisions discussed in a meeting. BOD should implement a process to be carried out annually for assessing the effectiveness of BOD, of committees of the board, and the contribution of each individual director. The code also provides clarity on criteria that should be considered by the nominating committee when recommending candidates of directorships. The proposed criteria are:

a. skills, knowledge, expertise and experience;

b. professionalism;

c. integrity; and

d. candidate's ability to discharge such responsibilities.

Theoretical Perspectives on Board of Directors' Roles

Board performance refers to the ability of directors to perform board roles (Ong & Lee, 2000; Wan & Ong, 2005). According to Nicholson and Kiel (2004) an effective board is "…one that can successfully execute the role set required of it" (p. 453). Nicholson and Kiel also argue that the ability of the board to execute these roles will determine how

effective the board governs the company. As board effectiveness will be based on board performance, board roles will be used as proxy for board performance in the present study.

Refer to Table 1- Theoretical Perspectives on Board of Directors' Roles

Table 1 outlines some theoretical perspectives on board roles and their respective operational definitions. For specific roles of the board of directors, related prominent theory perspectives such as legalistic perspective, agency theory, stewardship theory, and resource dependency theory are consulted. The study uses agency theory, stewardship theory, and resource dependency perspective to conceptualize the roles of BOD. In the present study, four dimensions of BOD roles are adopted following MCCG Code (FCCG, 2001), Wan and Ong (2005), Brennan (2005), and Ingley and Van der Walt (2005). Four dimensions of BOD roles are proposed in the present study i.e. strategy, monitoring, service, and resource dependency roles.

Board of Directors (BOD)

Zahra and Pearce (1989) identify four attributes of BOD which lead to good performance of firms: board composition, characteristics, structure, and process. The board composition refers to the board size and the mix of director types (insiders vs. outsiders). Board characteristics consist of two components which are directors' background (age, educational background, values, and experience) and board personality. Board structure refers to the dimensions of board's organization which include types of committees, committee membership, flow of information, and board leadership. Board process is referred to the approach the board takes in making decisions.

Board attributes that have been studied most in the corporate governance research are the board composition and board structure. In the management research, focus of studies is on the characteristics of board to link the CEO or executive directors'

background and personalities to the firm performance. The board process is less studied due to the difficulty of getting data about the activities and styles of board in making decisions. Vafeas (1999) was the first study to proxy the board process using the frequency of board meeting. The current study adopts all the board attributes suggested by Zahra and Pearce (1989) i.e. board composition (board size and director's type), board characteristics (knowledge/experience: tenure and multiple directorships), and board structure (board leadership).

Ownership Structure in Malaysia

Corporate governance in Malaysia is greatly influenced by ownership structure which has been found to have impact on board composition, board practices and board decisions (Tan, 2005). Shareholding in Malaysian PLCs is highly concentrated in the hands of a few numbers of shareholders (Fazilah, 2002; La-Porta et al., 2000). As of December 1998, Fazilah (2002) reported that the mean of the first largest shareholding was 30.30% and that of the five largest shareholding was 58.84%, which accounted for more than half of the voting shares. About 71.4% of companies (Main Board and Second Board) were under majority ownership, having a shareholding of more than 50%, and were controlled by their five largest shareholders.

The significant means of enhancing control in Malaysia is through pyramid-holding, cross-holding and managerial ownership (Claessens, Djankov, & Lang, 2000). There is significant participation of owners in management with 33% of them involved in management (KLSE-PWC, 1999). The concentrated shareholding in PLCs is also dominated by family. Eighty five percent (85%) of the sample companies of Claessens, Djankov, and Lang (2000) had their CEO, board chairman or vice-chairman from a controlling family. The percentage of family control is 57.5% and 67.2%, at 10% cutoff

686

and 20% cutoff, respectively. Family also has the highest control in large companies (35%) and smaller companies (84%).

Corporate Governance and Board Performance

Board Size

As BOD is the central internal control mechanism for monitoring managers, monitoring ability of a board is said to be affected by board size, board composition and board leadership structure (Jensen, 1993). Agency theory argues that smaller boards are more effective than larger boards in monitoring managers (Jensen & Meckling, 1976). Studies on the monitoring roles of BOD in earnings management have shown the effectiveness of small board size (Bradbury, Mak, & Tan, 2006; Rashidah & Fairuzana Haneem, 2006). Previous studies in relation to firm performance have also shown the effectiveness of small board size (Conyon & Peck, 1998; Mak & Li, 2001; Singh & Davidson, 2003; Yermack, 1996). The relationships between board size and board's involvement in strategic decision making have been found to be negative (Carpenter & Westphal, 2001; Goodstein et al., 1994; Judge & Zeithaml, 1992; Ruigrok et al., 2006). Since strategic board involvement requires active directors, thus larger boards would mean more time required to capitalize or to consider on diversifying perspectives. Small board size is also effective to represent companies to the outside parties or public at large to be known as companies' representatives. For resource dependency roles, large boards mean that more representatives from outside directors, thus they are expected to provide more resources to the boards in executing their roles.

H1: There is a relationship between board size and board performance.

Board Leadership

Power plays a major role in strategic decision making and the board power is limited compared to the CEO (Stiles, 2001) because CEO has structural power and is an expert in firm's operations compared to the outside directors. As management team is usually headed by the CEO or managing director, who is responsible for the formulation of strategy (Van der Berghe & Baelden, 2005), having CEO duality would provide better strategy roles. However, independent leadership is expected to contribute to better monitoring of management and of strategy implementation. Boards are less likely to exert control over management when they lack independence from the management (Carpenter & Westphal, 2001). There should be a clear division of roles and responsibility between CEO and directors. Evidence on the relationship between CEO duality and earnings management activities are mixed. Deachow, Sloan and Sweeney (1996) which examine the relation between earnings manipulation and weaknesses in firm's internal governance in the U.S. show that boards with CEO duality practices and boards dominated by management are more likely to manipulate earnings. However, Xie, Davidson, and Dadalt (2003) found CEO duality is negatively related to earnings management activities. As CEOs determine the agenda for board meetings and they lead the discussion, thus having independent board leadership is critical as check and balance purposes before proposals are approved. Norman, Takiah and Mohd-Mohid (2005) found CEO duality firms were associated with earning management activities. Ruigrok et al. (2006) found a negative relationship between CEO duality and board's involvement in strategic decision making. The same goes to monitoring roles as independent board leadership would promote audit committee effectiveness. Having independent board leadership would be expected to lead to increased service and resource dependency roles as independent leadership reduces the agency costs (i.e. managerial entrenchment) related to CEO duality.

688

H2: There is a positive relationship between independent board leadership and board performance.

Non-independent Non-executive Directors

Hermalin and Weisbach (1988) suggest that the effectiveness of board monitoring also depends on the composition of the board. The quality of internal control system, which is under the internal audit function, has an effective impact on the monitoring process (Faudziah Hanim, Hasnah & Muhamad, 2005). Outside directors play important role to ensure a company has an effective internal control system. It is done through their involvement in an audit committee in which they have direct contact with the internal audit function.

A special report on non-executive directors by The Economist (20 March 2003, pp 71-73) highlights a special breed of non-executive directors who are non-independent, the so-called "gray" or affiliated directors. Apart from being non-executive, an affiliated director is usually an ex-employee, related to the firm's controlling family, an interlocking director, or a professional with significant business or family ties with the firm (Klien, 1998). As most of the gray or affiliated directors owns significant shares in the companies, their incentives to get involved and engaged in corporate governance are higher (Roberts, McNulty & Stiles, 2005). In addition, since affiliated directors have prior associations with the firm, they often have deeper knowledge of the firm and its industry than independent directors, and thus shareholders may feel affiliated directors instead of independent directors are better serving them. To be effective in monitoring strategic decisions, outside directors should be persons from the business (CEO or executive directors from other companies) with relevant knowledge and related expertise (Pettigrew & McNulty, 1995).

H3: There is a positive relationship between the non-independent non-executive directors and board performance.

Multiple Directorships

Directors with more multiple directorships are expected to have more exposure on certain tasks and procedures which can be implemented in another company, making board performance more effective because less transaction costs incurred (Beasey, 1996; Norman et al., 2005; Sarkar & Sarkar, 2005; Tan, 2005). They are expected to provide effective monitoring. Directors who have experience in related strategies are more capable of contributing to strategic decision process (Carpenter & Westphal, 2001). However, directors have less time to closely scrutinize the internal control system which leads to less effectiveness in monitoring the managers. Thus, they put more reliance on the work of the internal audit (Faudziah Hanim et al., 2005). Thus, directors with many multiple directorships may be limited by their time to play their roles effectively (Haniffa & Hudaib, 2006; Murphy & McIntyre, 2007).

H4: There is a negative relationship between multiple directorships and board performance.

Board Knowledge

Lorsch (1995) acknowledges that the board ability to govern also depends on the knowledge of directors. Knowledge of directors comes from their working experience. BODs with higher board knowledge are expected to execute their roles better. Fairchild and Li (2005) found board knowledge in terms of director's age and tenure had a positive relation to firm performance. Dionne and Triki (2005) found a positive relationship between board knowledge (financially educated) and risk management activities of BODs. Peasnell et al. (2001) found the tenure of non-executive directors is

690

negatively associated with the level of earning management activities which indicates the importance of board tenure in performing effective monitoring roles. As longer tenure would mean the CEO-board friendship ties increase, longer tenure would be expected to lead to increasing in services provided by the BOD to the management (Westpal, 1999). However, an optimal board tenure is required as long board tenure results in declining performance due to impediments such as increased social cohesion and decreased innovation adaption (Bantel & Jackson, 1989).

H5: There is a positive relationship between board knowledge and board performance.

Board Process

In terms of board process, frequency of board meetings is considered as one way board can contribute to formulating and implementing of strategy roles and monitoring roles (Davies, 1991; Vafeas, 1999). More board committee meetings are required to focus on specific issues especially when the companies are in poor performance which requires restructuring. Rather than focusing on frequency of board meetings, the present study uses percentage of meetings attendance as a proxy for board process. High percentage of meetings attendance would provide knowledge to directors about the business operations. Thus, expertise and knowledge of board members are highly demanded in strategic decision making, monitoring the strategy implementation and management control system, providing services to increase company reputation, and providing supplement resources to managers.

H6: There is a positive relationship between the board process and board performance.

Managerial Ownership

Agency theory views that managerial ownership (MOWN) may act as an incentive mechanism. High MOWN is expected to lead managers to maximize firm's wealth as the net effects will ultimately go to them. When the proportion of shares controlled by managers exceeds certain level, they may use their control over the corporation to generate their own private benefits (Morck et al., 1988; Shleifer & Vishny, 1997). Ownership concentration by managers is a factor that has impact on the monitoring potentials of BOD (Nicholson & Kiel, 2004). The presence of controlling shareholder is found to be associated with positive firm performance in Thailand (Wiwattanakantang, 2001). Companies with concentrated ownership might also be subjected to high monitoring activities as the tendency for entrenchment is higher (Ali & Sanda, 2002; Fauzias et al., 1999; Morck et al., 1988). Companies with high managerial ownership would be expected to provide high board performance as their actions will affect their wealth.

H7: There is a positive relationship between managerial ownership (MOWN) and board performance.

Firm size was considered as a control variable as the board performance may be affected directly or indirectly by factors related to the nature of the firm. Controlling for size was necessary as percentage of managerial shareholding may be larger in small firms due to small outlay required in small firms.

Research Methodology

Population and Data Collection

The unit of analysis of this study is company and BOD was taken to represent the company. The population of this study is companies listed on the main board of Bursa

692

Malaysia for the year 2006. Only the main board companies were selected in order to control for other factors that might influence performance of companies in other boards such as size differences and risks. As the population of companies listed on the Main Board in the year 2006 was around 520 (excluding finance companies, PN4, PN17, companies listed after 2004), the sample size according to Roscoe (1975) for multivariate regression should preferably be one to ten (or more) for each variable tested, which requires a sample size of 90. However, for factor analysis of board performance a sample of 100 is preferred.

A survey method was used to collect data on board performance from the BODs. Bearing in mind of the poor response rate generally obtained in survey studies conducted in Malaysia, which is about 10% to 20%, questionnaires were sent to all 520 companies. This study used one initial mailing and two follow-ups procedures. In the actual survey, a questionnaire with introductory letters (to the company secretary and BOD) and a self-addressed envelope was sent to the company secretary. The company secretary was asked to direct the questionnaire to a member of BOD, who could be the chairman, the CEO/managing director (MD), an executive (ED) or a non-executive director (NED). Only a member of BOD is required to answer the survey questionnaire as the company's representative. The selected BOD is informed that he or she is representing the BOD. In the other cover letter to the BOD, instructions were also given on how to answer the questionnaire and the BOD was asked to return the completed questionnaire within a month period. To increase response rate, the non-respondents were sent follow-up letters emphasized the need for the research on board's roles and their invaluable contribution to the research.

Construction of Questionnaire

Board performance measures the extent of BOD participation or involvement in the companies' decision making. Items in the questionnaires related to the board performance were adapted from Brennan (2005), FCCG (2001), Ingley and Van der Walt (2005), and Wan and Ong (2005). First, the study considered the items from Wan and Ong's study as a basis as this study was conducted in Singapore which is similar in characteristics with Malaysian companies in terms of ownership structure and other board characteristics. Then comparisons were made between the roles of BOD from Wan and Ong's study with the roles of BOD as recommended in the Malaysian Code of Corporate Governance (MCCG Code) and also with available literature review on board roles.

After examining the board roles items closely, it was found that board roles in Wan and Ong's study fulfill most of the board roles stated in the MCCG Code. However, for strategy roles, it was found that Wan and Ong did not consider the role of risk management activities specifically whereas risk management activities are among the priority roles emphasized in the MCCG Code. Random checks were done in the annual reports of the main board companies in the sections of Corporate Governance Statement and in the Statement of Internal Control. They revealed that BODs in most cases undertake risk management activities. Thus, three items related to risk management as suggested by the MCCG Code were added ("identify principal risks of the company", "set risk appetite of the company", and "ensure implementation of appropriate systems to manage risks") in the questionnaire.

For the monitoring roles, most items were adapted from Wan and Ong, except item "evaluate the skill mix on the board" that was taken from the MCCG Code. Items "ensure corporate survivals", "specify lines of authority of management and board", and "review social responsibilities of the company" were from Brennan's. For service roles, three items from Brennan's ("enhance company reputation", "act as ambassador for the

694

company", and "participate in developing relationships with outside parties") were added whilst the rest were from Wan and Ong. For resource roles, three items were from Wan and Ong ("bring in skills relevant to the company", "provide a balanced/independent view onto the board", and "represent shareholders' interests effectively") and six items were from Ingley and Van der Walt's. In summary, the operational definitions of the BOD roles are as follows:

(1) Monitoring roles refer to the selection and reward of CEOs, evaluation of CEOs and company performance, and maximization of shareholders' wealth;

(2) Service roles refer to providing advice to top management and promoting reputation of the company externally;

(3) Strategy roles refer to strategic functions of board in terms of direction and planning including risk management; and

(4) Resource dependency roles refer to functions of outside directors.

In constructing the questionnaire, the content validity of the instrument was assessed based on the literature review and a pre-test study to BODs and senior academics. A preliminary study was conducted to refine and clarify questions and items in the instrument with regards to their meaning, clarity of each statement, relevance of items and problems encountered in completing the questionnaire. Feedbacks from five directors were considered. The questionnaire was also checked by two senior academics who have experience in survey research. Based on their suggestions, some modifications to the questionnaire were done. Then, a pilot study was conducted amongst 30 directors. In the questionnaire, six (6) demographic questions and 34 items on board performance (7 strategy, 11 monitoring, 7 service, and 9 resource) were asked. The demographic items asked the position of respondent in the company's BOD, type of non-executive directors, age of respondent, numbers of years respondent has been on

695

the board, educational background and other positions. For board performance variables (strategy, monitoring, services and resource), BOD was required to indicate the extent of BOD participation or involvement in the board roles of the company for the financial year 2006 using a 5-point scale ranging from 1 (*very little*) to 5 (*very much*) as used by Kula (2005) and other survey studies that examined participation in decision-making.

Data Analysis

For the board performance dimensions, factor analysis was conducted to determine the clusters of items fitting into a board performance dimension. The principal component analysis (PCA) in factor analysis was used for data reduction and to identify relevant factors. With a sample size of 112, the study used factor loading of 0.50 as suggested by Hair et al. (2006). In addition, factor loading of 0.5 and more is relevant for practical significance.

In deciding which items to be included in a factor, items that have high cross-loading in two or more variables are excluded. According to Hair et al. (2006), if a factor loading accepted is 0.50 and above, then an item which has cross-loading 0.50 and above is excluded. A difference of less than 0.10 in the cross-loading was considered as additional criteria to exclude an item from a factor (Snell & Dean, 1992).

Reliability analysis was run to determine the internal consistency (Cronbach Alpha) of items in a variable. Accordingly, the items in a variable should be measuring the same construct and thus be highly inter-correlated. To assess the internal consistency, the following series of diagnostic measures were considered (Hair et al., 2006):

(1) the reliability coefficient (Cronbach Alpha) accepted for this study is 0.7. Cronbach Alpha of 0.70 is generally agreed for lower limit, even though it may be decreased to 0.60 for exploratory research;

(2) item-to-total correlation (correlation of an item to the summated scale score) should be more than 0.5; and

(3) inter-item correlation (correlation among items) should be more than 0.30.

Regression analyses were conducted to examine the relationship between corporate governance mechanisms and each of board performance dimensions. The regression function is as follows:

$$BP = b_0 + b_1(BSIZE) + b_2(BLEAD) + b_3(NINE) + b_4(MMDIR) + b_5(TEN) + b_6(BPROS) + b_7(MOWN) + b_8(LGTA) + \varepsilon$$

Where:

BSIZE	number of board members
BLEAD	board leadership, dummy "1" for CEO ≠ Chairman, "0" otherwise
NINE	proportion of non-independent non-executive directors
MMDIR	directorships per director
TEN	average of directors' tenure
BPROS	frequency of board meetings or percentage of meeting attendance
MOWN	percentage of executive directors' shareholdings
BP	board performance dimensions
LGTA	logarithm of total assets

Results and Discussion

Sample Profile

Refer to Table 2 – Profile of Respondents

Out of 520 questionnaires sent, only 112 are usable which represents a response rate of 21.54%. In terms of composition of respondents, CEO/Managing Director represents the highest frequency of 36 (32.14%), followed by executive director of 30 (26.79%). The non-executive directors, comprising of independent directors and non-independent non-executive directors are 24 (21.43%). There are 11 (9.82%) company secretaries participated in the study. Responses from the company secretaries are also included in this study as they are key management positions akin to the CEOs (Zubaidah, 2002). In

697

most cases they usually respond on behalf of the directors. Furthermore, their nature of work and close working with the company directors justify them to be included in the study. In total, based on the type of director, 60.71% of the respondents represent the executive director (non-independent executive director) while 29.47% are the non-executive director (independent director and non-independent non-executive director).

In terms of years employed as BOD or working with BOD, nearly all respondents which are about 108 (96.4%) had more than three years experience. Thus, almost all respondents have enough experience in understanding the roles of BOD in their companies. About 60 (53.60%) respondents have educational background either in Finance, Economics or Business. Forty four respondents (39.30%) have degrees in other fields, which are usually related to the core business of the companies.

With respect to sector, almost all sectors are covered in this study. Nearly 80% of the respondents come from four sectors namely Industrial Product (IP), Trading and Services (TS), Construction (CONST) and Property (PROP).

The response bias analysis (t-test) for the board roles data was conducted for the early (N = 63) and the late (N = 49) responses to examine the homogeneity of samples. Late responses referred to responses received after the follow-ups were done. There is no significant difference between early and late responses for all board roles as shown by the insignificant t-value of each factor [STRATEGY ($t = 1.285$), REDEP1 ($t = -0.742$), SERVICE ($t = -0.032$), REDEP2 ($t = -0.864$), MONITOR1 ($t = -0.558$), MONITOR2 ($t = -0.101$)]. Thus, the response bias is not considered a significant issue in this study.

Descriptive Statistics of Variables

Refer to Table 3 - Descriptive Statistics of the Categorical Variable

Based on the common definition of board leadership (BLEAD), about 83.9% of the sample companies have different persons acting as CEO/MD and chairman of the

companies. Even though the MCCG Code recommends companies to have independent leadership, some companies (about 16.1%) still choose to opt the combined leadership structure.

Refer to Table 4 - Descriptive Statistics of the Continuous Variables

The average of board size (BSIZE) is 7.66 with the minimum of four directors and maximum of thirteen directors. The board size of the sample companies in this study is not much different from that in the study by PWC-KLSE (2002) of eight directors. The average proportion of non-independent non-executive directors (NINE) in a company is 0.24 (which is about two directors), with a minimum of 0.00 (no director) and a maximum of 0.67 (6 directors). The proportion of NINE in this study is quite low compared to that in the study by PWC (2002) of average three NINE in a public listed company.

Frequency meeting (FMEET) conducted is about 5.79 times per year with a minimum of four times to a maximum of fifteen times. It shows that more meetings were conducted even though companies are only required to have at least four meetings per financial year. The percentage meeting attendance of directors (PMEET) is quite high with the average of 93.70% and with the minimum of 75% and the maximum of 100%. By company, the average tenure (TEN) of directors serving on the board is about 7.79 years with a minimum serving of 1.25 year and maximum of 26.33 years. Individually, the maximum tenure of directors serving on the board reached up to 34 years. For multiple directorships (PMDIR), on average about 50% (48.43%) of the directors in a company have at least one additional directorship in other PLCs, with a minimum of 0.00 and a maximum of 100%. This is quite high compared to Tan's finding (2005) of 31.41% with a sample year of 2001. The multiple directorships per director (MMDR) in a company is 1.43 with a maximum of 4.67. Individually, the maximum multiple directorships held by directors reached up to the maximum limit of 10 directorships in PLCs. Some of them even have additional directorships in non-public listed companies,

699

societies and government agencies. For managerial ownership (MOWN), on average executive directors hold 23.80% shareholdings with a minimum holding of 0% and a maximum holding of 79.10%. The average shareholdings are not much different from Chee and Fauziah (2005) of 24.96%.

On average the board performance dimensions have more than 3.00 mean scores with MONITOR1 (management oversight roles) and REDEP2 (providing resources to management by outside directors) hold higher scores than the rest of the dimensions. However, MONITOR2 (performance evaluation roles) is less emphasized.

Roles of Board of Directors

Refer to Table 5 - Results of the Principal Component Analysis and Reliability Analysis of Board Performance

Results from the factor analysis extracted six dimensions of board roles instead of four dimensions proposed. The results differentiate monitoring roles i.e. management oversight roles (MONITOR1) from performance evaluation roles (MONITOR2). Resource dependency roles are further classified into two dimensions: protecting shareholders' and other stakeholders' interests (REDEP1) and providing resources to management (REDEP2). Strategy (STRATEGY) and maintaining company's reputation roles (SERVICE) remain as one factor each. The findings are in agreement with agency theory perspectives of the roles of BOD to get involved in the strategic decision process and control. The findings also support the argument by the Mintzberg (1983) that the roles of board of directors are to serve the organization in maintaining company's reputation. In addition, the findings also support Wan and Ong's (2005) finding to differentiate service roles from strategic roles as they are shown to be different dimensions.

700

However, the findings are somewhat different from the findings by Wan and Ong (2005) because their study identified only four dimensions of board performance i.e. strategy, service, monitoring, and resource dependency roles. The difference may be due to the instruments used to capture board performance items. In the present study the modified instruments were used. Several items were added to Wan and Ong's original instruments to measure roles and responsibilities of BOD according to the requirements of the MCCG Code and the literatures which are not captured in Wan and Ong's study.

Correlations among Variables

Refer to Table 6 - Pearson Correlation Matrix between Corporate Governance and Board Performance

In general, since all correlations are less than 0.80, there is no issue of multicollinerity between independent variables. Board size (BSIZE) is found positively correlated with firm size (LGTA) and the proportion of non-independent non-executive directors (NINE). However, board size is negatively correlated with the percentage of meeting attendance (PMEET), which means that companies with larger board size tend to have lower percentage of board meeting attendance. For board leadership (BLEAD), there is a positive correlation between board leadership and the proportion of non-independent non-executive directors (NINE) but a negative correlation between board leadership and the percentage of meeting attendance (PMEET). This means that companies with independent leadership tend to have more proportion of non-independent non-executive directors (NINE) but less percentage of meeting attendance (PMEET).

The proportion of non-independent non-executive directors (NINE) is found negatively correlated with managerial ownership (MOWN). Smaller companies tend to have higher managerial ownership (MOWN). Companies with higher managerial

ownership (MOWN) tend to have greater involvement in strategy and service roles. Directors with multiple directorships are more attached to larger companies. Directors with multiple directorships tend to have lower involvement in strategy roles. Larger companies tend to have more MONITOR1 and REDEP2.

Relationship between Corporate Governance and Monitoring Roles

Refer Table 7 - Multiple Regression Results between Corporate Governance and Monitoring Roles

Using standard regression analysis, the Breusch-Pagan (Cook-Weisberg) test shows that all models are significant with p-value less than 0.05 which suggests that heteroskedasticity was present in those models. Thus, regression analyses with robust option are adopted to cater the problem.

The results with management oversight board (MONITOR1) indicate that the proportion of non-independent non-executive directors (NINE) is found to have a significant and positive relationship with management oversight roles (MONITOR1) ($p<.05$). This suggests the importance of non-independent non-executive directors (NINE) to undertake greater management oversight roles. Managerial ownership (MOWN) is found to be significantly related to management oversight roles (MONITOR1) ($p<.10$) which suggests that when managers are holding higher percentage of ownership in a company, greater management oversight roles are conducted to protect managers' interests as higher percentage of ownership would align managers' interests with the shareholders' interests. Multiple directorships (MMDIR), board process, and board tenure are shown not significantly related to management oversight roles (MONITOR1). For control variable, it is found that larger companies are associated with higher management oversight roles. Independent board leadership (BLEAD) is negatively related to management oversight roles ($p<.05$). The significant relationship with

management oversight board suggests that CEO duality is significantly related to increased management oversight roles as a check and balance on the CEO decision making activities.

For the relationship between corporate governance and evaluation of managers' performance (MONITOR2), the results show the proportion of non-independent non-executive directors (NINE) is positively related to MONITOR2 ($p<.05$). Managerial ownership (MOWN) is found significant and positively associated with MONITOR2 ($p<.01$). Board size (BSIZE), board leadership (BLEAD), multiple directorships (MMDIR), percentage of meetings attendance (PMEET) and board's tenure (LGTEN) are not significantly related to MONITOR2.

Relationship between Corporate Governance and Strategy Roles and Service Roles

Refer to Table 8 - Regression Analysis between Corporate Governance and Strategy Roles

Regression analysis with strategy roles shows that board size (BSIZE) is significantly related to strategy role but in a negative direction ($p<.10$). The result is similar to those of Carpenter and Westphal (2001) and Ruigrok et al. (2006), which highlight that small board size is effective in strategic decision making. The proportion of non-independent non-executive directors (NINE) is positively related to strategy role ($p<.05$). Multiple directorships (MMDIR) have a negative relationship to strategy ($p<.01$). The result highlights the concern of having directors with multiple directorships (Haniffa & Coke, 2002) since it shows that having directors with multiple directorships are detrimental to strategic roles. The result is consistent with that of Carpenter and Wesphal (2001) and Ruigrok et al. (2006). Managerial ownership (MOWN) is significantly related with positive directions ($p<.01$). The result suggests the benefits of having high level of MOWN for the

703

strategic roles performed by the BODs. Other variables such as independent board leadership (BLEAD), percentage of meetings attendance (PMEET) and board's tenure (LGTEN) are not significant. The insignificant finding between board leadership and strategy role contradicts the findings of Muth and Donaldson (2005) and Ruigrok et al. (2006) who found CEO duality leads to higher strategy roles. For control variable, it is found large companies are associated with greater strategic roles.

Regression analysis with service roles shows that firm size (LGTA) is positively related to service roles ($p<.05$). This suggests that larger companies require greater services from their board of directors to create good company's reputation with the outside parties. Managerial ownership (MOWN) has strong influence on the level of services provided by the BOD as shown by the significant and positive relationships ($p<.01$). This supports the need for high level of MOWN for service roles. Other variables are not significantly related to service roles.

Relationship between Corporate Governance and Resource Dependency Roles

Standard and robust regression analyses were also conducted between corporate governance variables and other board performance dimensions (REDEP1 and REDEP2), however, the F tests for both models are not significant. However, after examining closely individual variables in the robust regression analyses between corporate governance and protecting shareholders' and other stakeholders' interests (REDEP1), it is found that independent board leadership (BLEAD) is significantly and negatively related to REDEP1 ($p<.01$). For the relationship with providing resources to management (REDEP2), firm size (LGTA) is found positively related to REDEP2 ($p<.01$). Other corporate governance variables are not significantly related to the roles of providing resources to management. The insignificant relationship with resource

dependency roles contradicts Wan and Ong's (2005) finding who suggest BOD as resource actors.

Conclusion

The study highlights some internal corporate governance mechanisms (i.e. board leadership, non-independent non-executive directors, multiple directorships, managerial ownership) which are found to be significantly related to greater board performance. The results support the importance of having non-independent non-executive directors as effective monitoring mechanisms and as facilitators in strategic planning and directions (Roberts et al., 2005). This finding suggests that non-independent non-executive directors have relevant incentives (represent blockholders and/or have significant shareholdings in the company) to monitor management decisions and provide strategic facilitation to the management and the board (Roberts et al., 2005). The positive relationship of non-independent non-executive directors supports the argument of Klien (1998) and Roberts et al. (2005) of the possibility of increased involvement in board functioning.

In relation to multiple directorships, the results of this study have practical implications to the current practices which allow directors to have up to 25 directorships (10 for public companies and 15 for non-public companies). The negative relationship between multiple directorships and strategy roles highlight the serious concern of multiple directorships in the Malaysian public listed companies. The findings also indicate the positive contribution of managerial ownership to improved board performance. Managerial ownership is proven to be as one of the incentive mechanisms for managers to work in line with shareholders' interests.

The negative relationship between independent board leadership and board performance is inconsistent with the potential of independent board leadership to board functioning. The insignificant findings of board knowledge and board process are

inconsistent with the revised code of corporate governance of having directors with high skills and experience and having more meetings. The insignificant may be due to those reputational directors are busy with other commitment as their expert may be required by other companies.

The limitation of the study is that the sample of the study only focuses on the main board companies. Thus, the findings of the study may not be generalized to other second board and MESDAQ companies. Further researches should be conducted in other boards (second board, MESDAQ, etc.) to determine whether the survey (instruments for board roles) holds in other boards.

Further researches should be conducted on multiple directorships as limited knowledge is available on multiple directorships status in Malaysia. Further studies may be conducted on determining the optimum multiple directorships for each type of directors such as executive directors and outside directors.

The positive relationships between non-independent non-executive directors with most of board performance dimensions in this study have potential impact on corporate governance practices. Further studies should be conducted on different settings and issues to see whether the findings hold.

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APPENDIX

Table 1
Theoretical Perspectives on Board of Directors' Roles

	Legalistic	Agency Theory	Resource Dependence	Stewardship
Board role	• Representing and protecting shareholders' interest • Managing the corporation without interference in day-to-day operation	• The primary role of boards is to monitor actions of agents (executives) to ensure their efficiency and to protect principals (owners) interests	• Boards are co-optative mechanism to extract resources vital to company performance • Boards serve a boundary spanning role • Boards enhance organizational legitimacy	• Boards ensure the stewardship of corporate assets
Operational definition of boards' role	• Selecting CEO • Monitoring CEO performance • Representing shareholders' interests • Evaluating company performance	• Maximizing shareholders' wealth • Reducing agency cost • Selecting CEO and company performance CEO • Evaluating CEO and company performance • Strategic decision making and control	• Scanning the environment • Representing the firm in the community • Securing valuable resources	• Defining company objectives / setting corporate direction • Setting vision and mission • Formulating strategy • Setting ethical tone • Involving in risk management activities
Theoretical Origins	Corporate law	Economics & Finance	Organizational theory & Sociology	Organizational theory

Sources: Zahra & Pearce (1989); Hung (1998); Stiles (2001)

Table 2
Profile of Respondents

	Frequency	Percentage (%)
Position:		
Chairman	11	9.82
CEO/Managing director (MD)	36	32.14
Executive director (ED)[a]	30	26.79
Non-executive director (NED)[b]	24	21.43
Company secretary (CS)	11	9.82
Director Type:		
Executive director (ED)	68	60.71
Independent director (INE)	20	17.86
Non-independent non-executive director (NINE)	13	11.61
Years employed as BOD:		
Less than 3 years	4	3.60
3 - 6 years	30	26.70
6 - 10 years	19	17.00
More than 10 years	59	52.70
Educational Level:		
Degree in Finance/ Economics / Business	60	53.60
Degree in other fields	44	39.20
Others	7	6.30
Missing	1	0.90
Industry Type:		
Consumer product (CP)	9	8.00
Industrial product (IP)	28	25.00
Trading and services (TS)	28	25.00
Technology (TECH)	3	2.70
Infrastructure (INFRA)	1	0.90
Construction (CONST)	17	15.20
Property (PROP)	15	13.40
Plantation (PLT)	11	9.80

Note.
[a] ED is executive directors other than the Chairman or the CEO/MD.
[b] NED is non-executive directors other than the Chairman.

Table 3
Descriptive Statistics for Categorical Variable

	Frequency	Percentage (%)
BLEAD		
CEO = Chairman (0)	18	16.1
CEO ≠ Chairman (1)	94	83.9

Note: N= 112. BLEAD is independent board leadership given "1" for CEO and chairman are different persons, "0" otherwise.

Table 4
Descriptive Statistics for Continuous Variables

Variables	Mean	SD	Skewness	Kurtosis	Min	Max
BSIZE	7.66	1.79	0.47	-0.22	4	13
NINE	0.24	0.18	0.27	-0.93	0.00	0.67
FMEET	5.79	2.20	1.90	4.15	4	15
PMEET	93.70	5.48	-1.15	1.35	75.00	100.00
TEN	7.79	4.87	1.56	3.11	1.25	26.33
PMDIR	48.43	27.82	0.11	-0.98	0.00	100.00
MMDIR	1.43	1.15	0.94	-0.05	0.00	4.67
MOWN	23.80	23.06	0.34	-1.32	0.00	79.10
STRATEGY	3.84	0.66	-0.11	-0.45	2.17	5.00
SERVICE	3.83	0.73	-0.29	-0.55	2.00	5.00
REDEP1	3.92	0.58	-0.66	0.69	2.00	5.00
REDEP2	4.06	0.60	-0.20	-0.54	2.60	5.00
MONITOR1	4.11	0.61	-0.38	-0.18	2.33	5.00
MONITOR2	3.74	0.80	-0.53	-0.12	1.50	5.00
LGTA	20.40	1.25	0.70	0.26	17.93	24.46

Note: N=112. BSIZE is number of board members; NINE is the proportion of non-independent non-executive directors on the board; FMEET is frequency meetings conducted in the financial year; PMEET is the average percentage of meetings attended by directors; TEN is the average tenure of directors; PMDIR is the percentage of directors on the board having at least one additional directorship in another company; MMDIR is the directorship per director: MOWN is managerial ownership measured by the executive directors' shareholdings, direct and indirect; STRATEGY is strategy roles; SERVICE is service roles; REDEP1 is protecting shareholders' and other stakeholders' interests; REDEP2 is providing resources to management; MONITOR1 is management oversight roles; MONITOR2 is performance evaluation; LGTA is logarithm of total assets.

Table 5
Results of the Principal Component Analysis and Reliability Analysis of Board Performance

Dimensions	Factors					
	1	2	3	4	5	6
STRATEGY (6 items)						
– formulate a strategic plan for the company	**.774**	.160	.077	.135	.074	.152
– identify principal risks of the company	**.741**	.139	.160	.120	.204	-.025
– ensure implementation of appropriate systems to manage risks	**.684**	.101	.313	-.110	.190	.191
– set risk appetite of the company	**.638**	.018	-.007	.243	.278	.333
– define vision of the company	**.612**	.040	-.064	.169	.194	.392
– benchmark strategic plan with industry data	**.610**	.153	.331	.243	-.097	.359
REDEP1 (5 items)						
– represent shareholders' interests effectively	-.127	**.759**	.015	.045	.327	.165
– have ability to balance risk and asset protection	.217	**.758**	.190	.145	.158	.154
– are chosen for their contribution to management performance	.230	**.712**	.254	.142	.115	-.060
– take into account the interests of stakeholders in the achievement of company objectives	.239	**.569**	.351	.394	.235	.045
– promote goodwill (support) of stakeholders' interests	.201	**.523**	.144	.476	.213	.200
MONITOR1 (3 items)						
– review company performance against strategic plan	.394	.466	**.669**	-.016	.271	.153
– monitor top management in decision making	.259	.291	**.636**	.366	.162	.218
– specify lines of authority of management and board	.150	.148	**.609**	.050	.228	.332
SERVICE (3 items)						
- participate in developing relationship with outside parties	.173	.127	.034	**.810**	.185	.191
– act as ambassador for the company	.146	.166	.110	**.742**	.349	.262
– enhance company reputation	.144	.200	.356	**.552**	.270	.267
REDEP2 (5 items)						
– bring in skills relevant to the company	.212	.103	.158	.217	**.742**	.094
– make contribution to company performance	.045	.307	.228	.136	**.669**	.145
– make contribution to board committee	.231	.339	.290	.128	**.615**	.147
– provide a balanced (independent) view onto the board	.189	.285	.067	.238	**.607**	.207
- have strategic thinking capabilities	.211	.428	.225	.205	**.534**	.145
MONITOR2 (4 items)						
– have internal mechanisms to evaluate board members' performance yearly	.333	.097	.081	.072	.132	**.768**
– evaluate the skill mix on the board	.225	.220	.130	.202	.153	**.725**
– evaluate performance of top company executives	.120	.049	.363	.259	.120	**.675**
– involve in succession planning for top management	.116	.113	.412	.367	.197	**.596**
Eigenvalue	4.34	3.89	3.64	3.61	3.48	3.25
Percentage variance explained	12.76	11.43	10.70	10.61	10.24	9.56
Cronbach's Alpha	0.86	0.87	0.78	0.86	0.86	0.86

Note. Bold loadings indicate the inclusion of that item in the factor.

Table 6
Pearson Correlations between Corporate Governance Variables, Control Variables, and Board Performance

	BSIZE	BLEAD	NINE	PMEET	LGTEN	MDIR	MOWN	LGTA	STRATEGY	REDEP1	SERVICE	REDEP2	MONITOR1	MONITOR2
BSIZE	1.0													
BLEAD	.15	1.0												
NINE	.20**	.25***	1.0											
PMEET	-.31***	.22**	-.16	1.0										
LGTEN	-.03	-.07	-.21**	.25***	1.0									
MDIR	.07	.12	.35***	-.06	-.07	1.0								
MOWN	-.08	-.20**	-.59***	.08	.17*	-.29***	1.0							
LGTA	.29***	.09	.14	-.05	.05	.39***	-.23**	1.0						
STRATEGY	-.06	-.00	.01	-.10	-.09	-.20**	.17*	.08	1.0					
REDEP1	.15	-.12	.08	-.09	-.03	.03	.05	.07	.45***	1.0				
SERVICE	.06	-.10	-.11	-.05	-.02	-.10	.29***	.11	.48***	.57***	1.0			
REDEP2	.12	.02	.01	.14	-.14	-.05	.04	.19**	.49***	.69***	.59***	1.0		
MONITOR1	.09	-.11	.15	-.07	-.05	-.01	.05	.25***	.56***	.60***	.53***	.63***	1.0	
MONITOR2	.09	-.06	.10	-.05	-.03	.03	.16	.09	.59***	.48***	.60***	.53***	.60***	1.0

Note. $*p<.10$. $**p<.05$. $***p<.01$.

Table 7

Multiple Regression Results between Corporate Governance and Monitoring Roles

	MONITOR1		MONITOR2	
	B	*t*-value	*B*	*t*-value
Constant	1.054	0.76	1.841	1.16
LGTA	0.177	3.63***	0.087	1.20
BSIZE	-0.015	-0.37	0.010	0.21
BLEAD	-0.262	-2.05**	-0.179	-0.97
NINE	1.134	2.57**	1.339	2.52**
PMEET	-0.575	-0.52	-0.348	-0.26
LGTEN	-0.053	-0.65	-0.050	-0.42
MMDIR	-0.126	-1.58	-0.021	-0.19
MOWN	0.690	1.94*	1.244	4.08***
R^2	0.173		0.109	
F-statistics	3.42		3.36	
Sig F-statistics	0.002		0.002	
N	112		112	

Note. *p<.10. **p<.05. ***p<.01. Variable board tenure (TEN) was transformed into logarithm

form (LGTEN). MONITOR1 is management oversight roles and MONITOR2 is performance

evaluation roles.

Table 8

Multiple Regression Results between Corporate Governance and Strategy Roles and

Service Roles

	Strategy		Service	
	B	*t*-value	*B*	*t*-value
Constant	2.538	1.607	1.696	0.948
LGTA	0.149	2.728***	0.140	2.257**
BSIZE	-0.068	-1.834*	-0.003	-0.069
BLEAD	-0.001	-0.006	-0.163	-0.849
NINE	0.934	2.175**	0.474	0.976
PMEET	-1.556	-1.306	-0.859	-0.064
LGTEN	-0.100	-0.968	-0.082	-0.697
MMDIR	-0.234	-2.956***	-0.105	-1.165
MOWN	0.890	2.717***	1.194	3.219***
R^2	0.169		0.145	
Adjusted R^2	0.105		0.079	
F-statistics	2.620		2.185	
Sig F-statistics	0.012		0.034	
N	112		112	

Note. Variable board tenure (TEN) was transformed into logarithm form (LGTEN).

*p<.10, **p<.05, ***p<.01.

RELATIONSHIP BETWEEN DIRECTORS' BONUS AND SHAREHOLDERS' VALUE:

A VIEW FROM CORPORATE GOVERNANCE

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ABSTRACT

Directors' remuneration research has traditionally focused on total salary, cash compensation and long – term incentives plans. Consequently, a systematic study on short – term annual bonus is lacking. To address this omission, this study is conducted to investigate the trend of bonus received by the executive directors among Malaysian companies publicly listed on Bursa Malaysia in the current economic condition from 2004 to 2006. The study also examines the relationship between the executive directors' bonus and shareholders value, specifically defined by firm performance, as measured using stock return and earning per share and by firm size, as measured using the total number of employee, so as to test the practice of the principle corporate governance among the Malaysian listed companies from two different theories, i.e. agency theory and power theory. For firm performance, the findings support the agency theory since directors' bonus is found to be positively associated with firm performance, as measured by EPS. However, the findings found no significant relationship between directors' bonus and stock return. For firm size, the findings support both theories since directors' bonus is found to be positively associated with firm size as measured by total sales and negatively associated with firm size as

measured by total number of employee. Consistent with the previous studies on executive bonuses, this association remains weak. However, power theory revealed that weak governance may foster the rise of powerful directors and thus, weaken the corporate governance value in a company. Therefore, it is suggested that close monitoring of directors' remuneration should continue and shareholders should remain extra vigilant.

Introduction

Many studies have been conducted to investigate the relationship between directors' remuneration and firms' performance (see for example Conyon and Leech, 1994; Conyon and Sadler, 2001; Ibrahim et al., 2005; Abdul Rahman and Mohd Zawawi, 2005). Indirectly, firms' performance seems to be the most likely capacity to measure shareholders value.   Some of the researchers claim that there is no significant relationship between directors' remuneration and firm performance (Ibrahim et al., 2005; Abdul Rahman and Mohd Zawawi, 2005). According to Conyon and Leech (1994), public concern has been expressed that the compensation packages received by those at the head of the corporation are not justified by the underlying economic performance of the company. Hence, this study took one step ahead to explore one

neglected element of directors' remuneration i.e. annual bonus in examining the relationship between directors' bonus and shareholders' value in Malaysia.

One recent study solely on annual bonus is done by Jay Daniel Fattorusso (2006) for the award of Doctor of Philosophy at Loughborough University titled, 'UK Executive Pay: The Special Case of Executive Bonus'. The results of the study demonstrated that there is a positive association between bonus pay and firm performance, both using internal and external measurement; i.e. earnings per share (EPS) and total shareholders return (TSR), respectively by using the a*gency theory* approach to reflect the principal and agent connectivity. In addition, the study further explores the relationship from the *power theory (self-serving management* approach) as to cater the complexity of the different interests in ownership types. This resulted that bonus pay is negatively associated with firm performance from the *power theory* approach. On top of that, Fattorusso (2006) also discussed on the relationship between executive bonus and firm size, as an extended view of firm performance from both approach mentioned earlier. The result is that bonus pay and firm size is not positively associated from the agency theory perception while it is positively associated from the power theory point of view.

On this note, it is crucial to investigate the relationship between directors bonus, being part of an important element in the directors remuneration and the shareholders' value represented by firms' performance and firms' size in the current economic condition on

the fact that the stability of corporate governance being practiced by most of the companies in Malaysia as compared to the time when corporate governance was at initial stage back in year 2000. Hence, based on sample of 74 (from the total of 545 observations) companies listed on the Bursa Malaysia, this study investigates the relationship between directors' bonus and shareholders value of the Malaysian listed companies for the year 2004 until the year 2006. The said period is deemed to be an appropriate period of study on the basis of readily available information and familiarity in the subject of corporate governance amongst the listed companies in Malaysia. For the purpose of the study, the sample is selected from the listed companies in all main industries on the Main Board of Bursa Malaysia. Directors' remuneration is further delved into directors' bonus portion while shareholders value, which is represented by firms' performance, are measured using stock return (SR) and earnings per share (EPS) and firms' size, are measured using total number of employee and total sales.

This study is not only significant to ascertain the relationship between the directors' bonus and shareholders' value, but further to reveal what are the patterns of the bonus received by the executive directors for Malaysian listed companies in the current economic condition. The most important is to discover whether the board of directors is mindful of enhancing shareholders value, a cornerstone of corporate governance by implementing agency theory approach or they are is mindful of enhancing their own wealth, as argued by the power theory. The findings from this study will contribute to

the literature on the correlation or relationship between directors' bonus and firms' performance as well as firms' size, which indirectly represent the shareholders value.

Agency theory

The idea of agency theory has been long discussed by scholars in various field specifically accounting (for example Garen, 1994; McColgan, 2001). In fact, literatures on agency theory has been explored during the 1960s and 1970s describing the risk – sharing problem as one that arises when cooperating parties have different attitudes toward risk (Eisenhardt, 1989). Subsequently, agency theory had broaden this risk – sharing concepts by including the '*agency problem*' that occurs when the cooperating parties have different goals.

Jensen and Meckling (1976) in its article mentioned that the concern of agency theory lies in the incentive problems that arise when the decision making in a firm falls within the province of managers who are not the firm's security holders.   Given a various version of agency theory's definition mentioned above, it is well understood that the principal or shareholders are given no option than partly (to some extend, mostly) delegate the decision making process to the agents or directors who run the company despite of the divergence desires and risk – attitude between them., i.e. *agency conflicts*.

Agency theory is also best explained in the form of corporate governance. This is because the theory holds that managers will not act to maximize the returns to shareholders unless appropriate governance structures are implemented as a mechanism to safeguard the interests of shareholders (Donaldson and Davis, 2001). Furthermore, the definition of corporate governance suggested by the High Level Finance Committee Report on Corporate Governance (1999) has obviously implies the similar direction with agency theory. This is supported by McDonald et al. (2008) that corporate governance factors can also be employed to remedy the agency problem, at least in part and thereby reduce the agency costs to increase the alignment of managers' personal interest with the core interest of shareholders.

Power theory

Power theory emphasize on the fundamental misalignment of interests between the principal and the agent (Fattorusso, 2006). From the word 'power theory' itself, it is understood that the managerial power is heavily associated with the separation of ownership, that refers to a situation where power and control of the corporation has been shifted away from the common stockholders (Fattorusso, 2006).

Meanwhile, *power* refers to the ability of an individual to influence others and affect their behaviour (Isabella, 1992). However, the managerial power perspective does not assume that directors seek to get the best deal for shareholders (Bebchuk and Grinstein, 2005). This is because power can also be abused when executives are self –

serving and being opportunistic towards the undaunted power given by the shareholders. Additionally, management may pursue its own interest obliviously to the welfare of the owners (Werner and Tosi, 1995).

Due to the above, by having most of the power lies with the directors, it is important that the shareholders have the power in the company as well. Shareholder power is supposed to supply a critical safety valve that prevents directors from straying shareholders' interest (Bebchuk, 2003). For example, should the shareholders are not satisfied with the action of their elected representatives, they have the power to turn the board out. As a result, power plays a central role in various aspect of corporate governance. This is proven by Finkelstein and D'Aveni (1994) who discussed on the managerial power and how it is dependent with the ownership structure of the firm, the board composition as well as its duality.

Directors' Remuneration and Firm Performance

Studies on correlation of personal returns received by directors to the returns received by shareholders have been extensively discussed by the Western researchers especially in the states and United Kingdom. Much debate in these countries revolves around the linkage of directors' remuneration and firms' performance from various researchers' perspectives in defining directors' remuneration as well as firms' performance. No matter how diversify the arguments are, the result of the discussion is biased towards the existence of the relationship between directors' remuneration and

firms' performance at a very small substance (see for example Conyon, Gregg and Machin, 1995).

Jensen and Murphy (1990) prove that there is positive relation between cash compensation and firm performance in a well known study on 2,213 CEOs in United States for the period from 1974 – 1986. Researchers in United Kingdom too found a very small sensitivity between directors' remuneration and firms' performance. In the same vein, the issue on relationship between directors' remuneration and firms' performance does receive much attention in other countries than US and UK since the interest on directors' compensation is a world – wide surge that investors, analysts, policy makers, journalist and public are always keen on. However, less research has been conducted in other countries due to the disclosure on directors' remuneration that do not go far enough in those countries (Kabir, 2008).

In the Malaysian context, Dogan and Smyth (2002) have made an attempt to fill the gap in the Asian literature, by a research conducted on the determinants of board compensation in Malaysian firms listed on the Kuala Lumpur Stock Exchange over the period of 1989 – 2000. Dogan and Smyth (2002) however found that directors' remuneration is positively correlated with stock market performance but negatively correlated with accounting measures.

On top of that, Ibrahim et al. (2006) has further explored the relationship between directors' compensation and firms' performance among companies in Malaysia using data from 1999 to 2001. The study intends to see the relationship subsequent to the announcement of the new ruling on corporate governance by Kuala Lumpur Stock Exchange in 2000 which was predicted to be stronger in 2001 as compared to pre-implementation period. However, the findings show that there is a non – significant relationship between pay and performance in 2001 and instead Malaysian companies tend to link directors' remuneration with growth and size rather than performance.

Bonus – based incentives

There has been little research that split directors' remuneration between base salary and bonus. One of the obvious reasons is because both were rarely broken down separately. Veliyath (1999) has defined salary as cash compensation that is determined at the beginning of an annual pay cycle, while annual bonus is defined as cash compensation that is determined at the end of an annual pay cycle and is based on only one – year's worth of performance information. Hence, annual bonus seems to be an important component in directors' remuneration as it reflects short – term performance of a company (for example Holthausen, 1995; Fattorusso, 2006).

Subsequent to the corporate scandals i.e. Enron, WorldCom that relates to proliferation of stock options in the CEO pay, bonuses are likely to become an even more important component of CEO compensation (Sheikh, 2008). Studies that specifically examine the

executive bonuses were found to be positively, though weakly associated with shareholders' value and thus, no evidence of bonus being a purely manager – serving device (Bruce et al., 2007). However, the result is in contrast with Healy (1985) who concluded that bonus schemes create incentives for managers to select accounting procedures and accruals to maximize the value of their bonus awards.

Value of the annual bonus and firm performance

Agency theory is based on the premise that principal (shareholders) delegate duties to the agent (the board and CEO) who is expected to act in the best interest of the shareholders. As such, it is the boards' responsibility to design compensation schemes that provide managers with efficient incentives towards maximizing shareholders' value (Bebchuk, 2003). Hence, based on the empirical evidence from those studies, agency theory assumed that the board will design bonus schemes based on performance targets that contribute to the shareholders wealth.

Existing literatures that exclusively examine the short – term annual bonus and firm performance include Bushman et al. (1995), McKnight (1996), Fattorusso (2006) and Bruce et al. (2007). For example, Bushman et al. (1995) found that 33.7% of the average division CEO's annual bonus in 246 public domestic firms in the states is based on group level or corporate level performance measures. Similar relationship was found in Fattorusso's (2006) study that supports the agency theory view as the bonus amount is positively associated with financial performance, both measured using

EPS and TSR. Hence, the first hypothesis for the study under the agency theory is as follow:

H$_{1a}$: The value of directors' bonus is positively associated with firm performance, as measured by stock return and EPS.

As for the power theory, the conflict of interest between principal and agent is due to the self – serving executives, who are opportunistic and will participate in dysfunctional behaviour when given necessary latitude (Conyon and Sadler, 2001; Fattorusso, 2006). Moreover, since ownership and control has become more dispersed due to the separation of control between shareholders and executives, power theory suggest that executives are able to fully entrench themselves in the entire company and extract greater rents through their compensation arrangements and oblivious to the welfare of the owners (Bebchuk and Fried, 2004). In addition, Choi (2008) comments that as CEO's power become stronger, they may be free to undertake excessively high risks project for personal gain, potential resulting in large losses for the firm. Hence, it is assumed that under this theory, the following hypothesis is as follows:

H$_{1b}$: The value of directors' bonus is negatively associated with firm performance, as measured by stock return and EPS.

Value of the annual bonus and firm size

Although the relationship between directors' compensation and firm size has less attention as compared to firm performance, there are many researches conducted on this which started in the past five decades ago (for example McGuire et al., 1962; Lewellen and Huntsman, 1970). Using more current evidence, Bebchuk and Grinstein (2005) found an interesting evidence that the firm size increase is followed by higher CEO pay but firm size decrease is not followed by lower CEO pay.

This implies that firm size expansion is not motivated by maximization of shareholder wealth but is associated with CEO compensation increases (Bebchuk and Grinstein,2005). However, there is not much attention that focuses specifically on directors' bonus with firm size. Due to the limited literature, researches that concluded on directors' compensation (cash compensation) and firm size are being considered to develop the hypothesis.

Studies that specifically examine the relationship between directors' compensation and firm size include McGuire et al. (1962), Tosi et al. (2000) and Ibrahim et al. (2006). Most of the studies use total sales, market value, net assets and number of employee as a measure of firm size. However, the High Level Finance Committee Report on Corporate Governance (1999) states that executives are expected to maximize the shareholders' value through raising a company's share price, which is consistent with the agency theory. As such, strategies to increase firm size that were considered to be

non-maximising would be avoided as a course of action (Fattorusso, 2006). Consequently, this has led to the following hypothesis:

H_{2a} : The value of directors' bonus is negatively associated with firm size, as measured by total number of employee and total sales.

Power theory, on the other hand has the mirror image of this hypothesis on the argument that directors who posses self – serving management behaviour will focus on self – interested objectives rather than the shareholders. Generally, the relationship between directors' compensation and firm size supports power theory as it is less sensitive to performance and more sensitive to firm – size expansion (Choi, 2008). Therefore, directors under power theory are more incline to grow the firm size rather than stock return and EPS. This may be due to the positive affirmations associated with running large corporations (Fattorusso, 2006). Consequently, it is hypothesized as below:

H_{2b} : The value of directors' bonus is positively associated with firm size, as measured by total number of employee and total sales.

Based on the above literatures, the conceptual framework of relationship between directors' bonus and shareholders value are summarize in the following figure:

Figure 1: Conceptual Framework of Relationship between Directors' Bonus and Shareholders' Value

Sample Selection and Data Collection

The companies included in the sample are drawn from all main industries listed on all boards of Bursa Malaysia. This contradicts Ibrahim et al. (2006) who excluded all financial companies listed at Bursa Malaysia. However, there are also considerably numbers of studies that do not exclude the finance sectors as part of the sample in addressing the same issue (for example, Tosi et al., 2000; Fattorusso, 2006). The sample selection from 8 main industries namely consumer products, industrial products,

construction, trading or services, properties, plantation, technology and finance is important to reflect the Malaysian emerging capital market as a whole.[84]

Besides, the sample must have all required accounting data, shares price and total number of employees that are available for the year 2004 until the year 2006 to estimate the relationship between directors' bonus and shareholders value as used by Fattorusso (2006). The said period is deemed to be appropriate on the basis of familiarity and awareness on corporate governance amongst the listed companies in Malaysia.

Only secondary data are needed for this study and the data including the stock prices, EPS, total number of employee and total sales are collected from DataStream International which is a comprehensive database containing financial information of companies listed on exchanges and over the world. For the purpose of this study, companies that separately disclosed their directors' bonuses amounts are selected and the data are specifically extracted from companies' audited report available in the Bursa Malaysia website. Companies with incomplete data are excluded.

After taking into consideration on all the sample selection criteria, a total of 74 companies become the final sample used for the study. In addition, the samples are

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[84] Industry classifications were based on the Bursa Malaysia categorization taken from

http://www.bursamalysia.com

further corroborated with the samples of companies in the joint survey between the Minority Shareholder Watchdog Group (MSWG) and University Teknologi Mara namely, "Directors' Remuneration Survey" done in 2007 to enhance the value. This is because the survey was performed on the top 500 PLCs based on market capitalization as at 31 December 2005. Due to a small sample size used in this study as compared to previous studies on these issues, the result of these findings is more appropriate to represent the companies within the sample instead of generalizing it to represent the public listed companies in Malaysia.

Measurement of Variables

Dependent Variable

Information on total directors' remuneration is clearly detailed in a firm's financial statements. However, information specifically on annual bonus required considerably more time to decipher, primarily because of the confusion surrounding when earned annual bonuses were actually reported as paid (Knight, 1996). This is because some firms reported annual bonuses in the year paid (i.e. subsequent year) rather than in the year ended (i.e. current year) and this represents a potential timing problem (Knight, 1996). For the purpose of this study, the bonus amount stated in the audited report is considered current unless it mentioned otherwise.

In most of the financial statements of public listed companies in Malaysia, the annual bonus information is normally form part of the 'other short – term benefit' such as

directors' fee, emolument, allowances and estimated monetary amount of benefits – in – kind rather than to be presented individually as directors' bonuses. In fact, there are a great number of financial statements that lump the bonus figures with the basic salary as part of the directors remuneration. Using the sample employed by the Directors' Remuneration Survey in 2007 by MSWG and UiTM, the number of companies that lump the bonus figure is 447 (89%) leaving the remaining 11% of companies that are included in this study's sample size. Apparently, this might be the main reason for a limited data in this study.

As such, extracting the particular bonus amount from the annual reports of all companies listed in the Bursa Malaysia for the three years period from 2004 to 2006 is meticulous, thus requires extra cautious. Since bonus is the distinctive value in this study, any vague information in the financial statements on directors' bonuses will be excluded from the sample. Bonus with nil amounts during the year will still be included in this study.

Independent Variable

For independent variables, shareholders value will be detailed explained in two perspectives, i.e. firms' performance and firms' size. Firms' performance will be operationalised as stock return and EPS while firms' size will be measured using total number of employee and total sales at the end of each financial year from 2004 to

2006. All four independent variables used in this study are taken from the companies' financial statements.

Stock performance is usually measured by the changes in stock price (Attaway, 2000). Benito and Conyon (1999) and Tosi et al. (2000) have used stock performance to measure the performance of firms' stock in their respective studies while McKnight (1996) employs shareholder return in his study. For the purpose of this study, the variable used is consistent with Firth et al. (1996) i.e. stock return at the end of each financial year. Stock return is computed as changes in stock price (adjusted for capital changes) plus dividend per share.

This study further adopted EPS as a second independent variables to measure the firms' performance from the accounting – based measurement. EPS is widely used (for example Randoy and Nielsen, 2002) in evaluating the operation performance and profitability of a company to justify the directors' compensation as it is a fair reflection of a firm's internal performance (Fattorusso, 2006). Basic EPS is computed using net income divided by the number of shares outstanding during the year.

Roberts (1956) in Fattorusso (2006) mentioned that despite using net sales as the index of corporate size, other measures of corporate size did not alter his conclusion significantly. Due to that, the third independent variable adopted in the study is the total number of employee stands at the end of each fiscal year for all companies listed in

Bursa Malaysia from 2004 to 2006. This is inline with Tosi et al. (2000) who propose that size has been operationalised by firm sales, the square root of sales, the log of sales, the number of employees, total assets and log of total assets. The number of employee considers all staff, including directors and other top management executives within the company.

The study employs total sales, as the fourth independent variables use as an alternate measurement for firm size. This is because total sales have been widely used as to represent the firm size. McGuire et al. (1962) have used the revenue figure to determine the relationship between executive incomes, sales and profit. In more recent studies, McKnight (1996) also uses total sales to represent firm size in providing the explanation of top executive pay in UK. Hence, it is crucial to expand Fattorusso's (2006) study by including total sales as an additional independent variable to measure firm size in order to increase the reliability of the study.

Finally, this study employs leverage ratio to be a control variable in examining the relationship between all the independent variables and directors' bonus. This is similar with Duffhues and Kabir (2008) who assumed that companies with higher debt will be closely monitored by the creditors or debt holders. Hence, the companies thereby reduce the payment of any excess compensation to the directors. Apart of that, higher debts lead to high risk which necessitates the payment of higher compensation (Duffhues and Kabir, 2008). Leverage ratio is defined as total debt over total assets.

Result and Discussion for Hypotheses Tests

Descriptive Statistics of Dependent Variables

Table 1 presents the descriptive analysis for annual bonus received by the directors of companies traded in Bursa Malaysia for the period from 2004 to 2006. From the table, it is noticed that the highest and lowest annual bonus received by Malaysian directors among the public listed companies (within the samples selected) for the period between 2004 to 2006 are RM6,939,000 and RM5,000 respectively, both in year of 2006.

Despite of that, it is also noticed that the average level of bonus received by directors decreased from RM411,292 in 2004 to RM370,790 in 2005 and subsequently followed by an increased to RM516,198 in 2006, evidenced by the mean amount presented in Table 1. Accordingly, the bonus growth in 2005 of -10% has sharply increased to 39% in the 2006 bonus. McKnight (1996) too, found that the bonus growth from 1993 to 1994 grew at astonishingly rate of 18.32% in his 3 years study from 1992 to 1994. Accordingly, the median bonus amount for this study also fluctuates by RM15,000 in 2005 and subsequently increased by RM53,000 in 2006. This seems to contradict Fattorusso (2006) who found that the median bonus figure rose by 30% (£37,000) over the 2 year period from 2001 to 2003 among the FTSE 350 companies in the UK.

Table 1: Descriptive statistics for annual bonus by year

Year	N	Mean	Median	Std Dev	Min	Max
2004	66	411,292	164,975	712,059	9,000	4,098,000
2005	73	370,790	150,000	674,005	10,833	5,062,000
2006	71	516,198	203,150	1,001,032	5,000	6,939,000

Test of normality

Test of normality is performed in order to determine the most appropriate statistical tool to be used in the correlation analysis. Therefore, the result from the normality test is presented in Table 2.

Table 2: Test of Normality on variables values

Variables	Normal parameters	Most extreme differences		Kolmogorov – Smirnov Z	Asymp. Sig. (2-tailed)
	Mean	Positive	Negative		
$BONUS_{log}$	12.12	0.060	-0.048	0.517	0.952*
SR	0.15	0.117	-0.060	1.004	0.266*
EPS	0.16	0.118	-0.124	1.063	0.208*
$E'EE_{log}$	6.89	0.089	-0.076	0.768	0.597*
$SALES_{log}$	12.81	0.116	-0.062	0.996	0.275*
LEV	0.42	0.115	-0.058	0.993	0.277*

* Significant at the 0.01 level

Table 2 shows the result of the One – Sample Kolmogorov-Smirnov Z normality test on all values used in the study. Hence, it is observed that all variables used are normally distributed based on the fact that $p > 0.01$. Apparently, variables which are not normally distributed have been transformed into log (similar with Conyon, 1995) using SPSS12.0. Variables that have been transformed into log are bonus, total number of employee and total sales. Due to that, Pearson correlation analysis, a parametric statistical tool is used to examine the relationship between the directors' remuneration,

i.e. BONUS$_{log}$ and the shareholders value, i.e firm performance, measured by SR and

EPS and firm size, measured by E'EE$_{log}$ and SALES$_{log}$.

Correlation Analysis

The results of the correlation analysis are shown in Table 3.

Table 3: Pearson correlation between directors' bonus and shareholders value

		Log bonus (BONUS$_{log}$)	Stock return (SR)	Earning per share (EPS)	Log total number of employee (E'EE$_{log}$)	Log total sales (SALES$_{log}$)
Pearson Correlation	BONUS$_{log}$	1.000	.233	.419	.337	.527
	SR	.233	1.000	.323	.319	.399
	EPS	.419	.323	1.000	.581	.636
	E'EE$_{log}$	.337	.319	.581	1.000	.783
	SALES$_{log}$	.527	.399	.636	.783	1.000
Sig. (2-tailed)	BONUS$_{log}$	.	.046	.000	.003	.000
	SR	.046	.	.005	.006	.000
	EPS	.000	.005	.	.000	.000
	E'EE$_{log}$	.003	.006	.000	.	.000
	SALES$_{log}$	.000	.000	.000	.000	.
N	BONUS$_{log}$	74	74	74	74	74
	SR	74	74	74	74	74
	EPS	74	74	74	74	74
	E'EE$_{log}$	74	74	74	74	74
	SALES$_{log}$	74	74	74	74	74

Based on Table 3, there is a positive and significant (Sig. value = 0.046) though weak

(r = 0.233) relationship between directors' bonus and stock return. For EPS, there is

also a positive and significant relationship between directors' bonus and EPS. However,

the strength of relationship between these variables is moderate as compared to stock

return, based on the coefficient of correlation value of 0.419. Relationship between

directors' bonus and firm size, measured is found to be significant at any level of confidence (2-tailed), as evidenced by the Sig. value in the table above. However, the result shows that total sales are more correlated to directors' bonus based on the coefficient r value of 0.527 as compared to total number of employee (coefficient r value = 0.337).

Multiple Regressions Analysis

The hypotheses developed in the study is to explore whether there is any relationship between directors' bonus and shareholders' value variables. Once the relationships have been identified, regression analysis is used to explore the relationship in depth.

The relationship is expressed as an equation that predicts the dependent variable from a function of the independent variables (regressors) and a set of constants called the parameter. For the purpose of this study, the dependent variable is log directors' bonus ($BONUS_{log}$) and the independent variables are stock return (SR), earning per share (EPS), log total number of employee ($E'EE_{log}$), log total sales ($SALES_{log}$) and leverage ratio (LEV). Hence, the multiple regression equation model is as follows:

$$BONUS_{log} = \beta_0 + \beta_1\,SR + \beta_2\,EPS + \beta_3\,E'EE_{log} + \beta_4\,SALES_{log} + \beta_5\,LEV + e$$

As all variables are normally distributed, regression analysis can be properly executed. On top of that, several tests for autocorrelation and collinearity are also carried out.

Hence, Durbin – Watson test, one form of test for autocorrelation is used to check for autocorrelation, a condition in which a relationship exists between consecutive residuals (similar with Abdul Rahman and Zawawi, 2005).

The test indicates that there is no evidence of autocorrelation since the Durbin – Watson coefficient is 1.691 and it lies within the range of 1.69 and 2.31. Thus, there is no time effect of the performance of the companies on the directors' bonus over the observed period, i.e. 2004 to 2006. Furthermore, high tolerance levels (i.e. significantly different from zero) suggest that collinearity or multicollinearity is unlikely, based on the data shown in Table 4 below. Collinearity (or multicollinearity) is the undesirable situation where the correlations among the independent variables are strong.

Table 4: Multiple Regression Analysis Result

	Unstandardized coefficients		Standardized coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	6.679	1.529		4.367	.000		
SR	.058	.476	.013	.122	.903	.828	1.207
EPS	1.068	.879	.170	1.215	.229	.515	1.941
E'EE$_{log}$	-.201	.146	-.231	-1.374	.174	.357	2.798
SALES$_{log}$	.520	.161	.597	3.225	.002	.297	3.372
LEV	-.029	.705	-.005	-.042	.967	.717	1.394
No. of observation	74						
R Square	.310						
Adjusted R Square	.259						
F	6.111						
Sig.	.000[a]						

a. Predictors: Leverage ratio, EPS, stock return, log total no of employee and log total sales

Table 4 contains the coefficient of determination (R-Square) that measures the degree of predictive accuracy of the regression model in explaining the variations in the

dependent variable, i.e. directors' bonus. As such, it is noticed that the model explains 31% of the variation in directors' bonus based on the R-Square value. This means that there are other variable (69%) which are not included in the model are also related to directors' bonus. Furthermore, due to the small number of sample size in the study, it is believed that the regression result does not accurately represent the entire population of public listed companies. However, the sig. value of 0.000 < 0.01 shows that there is enough evidence to reject the null hypothesis at the 1% level of significance or higher. Hence, the regression model used in this study is significant and can thus, be used to explain or predict the bonus amount received by the Malaysian directors among the public listed companies within the sample selected.

In addition, the table shows that total sales seem to be the only factor that is significant to predict directors' bonus as proved by the sig. value of 0.002. This implies that there is also enough evidence to reject null hypothesis at 1% level of confidence of higher. However, the remaining variables show slight or no significant effect to the variation of directors' bonus. Surprisingly, the leverage ratio being the control variable in this model also has no significant influence to directors' bonus.

Directors' Bonus and Firm Performance

Looking back to the hypotheses, **H$_{1a}$** states that the value of directors' bonus is positively related to firm performance under the agency theory. In order to have a

better discussion, our findings are separated into stock return and EPS in its respective paragraph as follows:

Based on the Sig. value of 0.903 in Table 4, we **accept the null hypothesis** since there is no significant relationship between directors' bonus and stock return. This finding seems to be consistent with some of the earlier studies conducted on directors remuneration (cash compensation) due to limited studies specifically done on directors' bonus. The study is supported by Greg et al. (1993) who initially found a weak correlation between directors' compensation and stock market valuation over the period of 1983 – 1988 but the link subsequently disappear over the period of 1989 - 1991. On top of that, Dogan and Smyth (2002) suggested that the relationship between board remuneration and firm performance is ambiguous in Malaysia, over a study period between 1989 to 2000.

For EPS, the study found a positive relationship between EPS and directors' bonus. This is consistent with McKnight (1996) who found a positive and statistically significant relationship between changes in EPS and changes in annual bonuses for the sample throughout 1992 – 1994 in UK. On the contrary, Randoy and Nielsen (2002) found no significant relationship between CEOs' compensation and EPS in 224 companies from Norway and Sweden within the period from 1996 to 1998.

Due to the above, our results for both firm performance measures, i.e. stock return and EPS provide partial support for H_{1a} which states that the value of directors' bonus is positively related to firm performance, as measured by stock return and EPS under the agency theory. This is because H_{1a}, is accepted when firm performance is measured using EPS but null hypothesis is accepted when firm performance is measured using stock return. Since our result for firm performance seems to partly accept the H_{1a}, by implication the study also partly reject H_{1b}.

Consequently, H_{1a} that states the value of directors' bonus is positively associated with firm performance, i.e. stock return and EPS under the agency theory is **partly accepted**. On a contradictive perspective, H_{1b} that states the value of directors' bonus is negatively associated with firm performance, under the power theory is therefore **partly rejected** as well. In other words, our results support agency theory when firm performance is measured using EPS while no significant pay – performance relationship was found in this study when firm performance is measured using stock return.

In overall, the result implies that Malaysian directors in the public listed companies (within the sample selected) are more transparent since our result shows a positive relationship between directors' bonus and EPS (accounting – based performance measure). This is because Jensen and Murphy (1990) states that positive sign of

accounting base performance may yield information that is valuable in assessing an executive's unobservable actions.

Directors' Bonus and Firm Size

Common sense would tell us that larger firms normally give higher compensation. This general argument seems to be inconsistent with our third hypothesis, H_{2a} which states that the value of directors' bonus is negatively associated with firm size, as measured by total number of employee and total sales under the power theory. For a better discussion of result, total number of employees and total sales are separately discussed according to the respective paragraph as follows:

The study found a negative relationship between directors' bonus and total number of employee. As such, our result contradicts Fattorusso (2006) who suggested that firm size, as measured by number of employees is weakly but positively related with bonus pay. Apart of that, the finding generally does not agree with the assumption that bigger companies which have complex responsibilities tend to pay more to their directors due to the fact that more complex and demanding tasks (Ibrahim et al., 2001).

Total sales, however is found to be positively significant in explaining directors' bonus. This is consistent with McKnight (1996) who found an eminently strong and positive association between annual bonus and total sales which proposed that a 10% larger firm (using total sales) will pay its executives on average 11.2% greater in bonus.

745

Perhaps, most of the public listed companies within the sample of the study strive to increase its sales as it has been said that increasing the volume of sales will achieve greater prestige and eventually lead to higher compensation (Murphy, 1985 and Ibrahim et al., 2001).

Under agency theory, any related effort to increase the firm size be it by the total number of employee or total sales is considered contradicting in maximizing the shareholders value. Therefore, our results for both firm size measures provide partial support for hypothesis H_{2a} which states that the value of directors' bonus is negatively related to firm size, as measured by total number of employees and total sales under the agency theory. This is because H_{2a}, is accepted when firm size is measured using total number of employees but it is rejected when firm size is measured using total sales. Since our result for firm size seems to partly accept the H_{2a}, by implication the study also partly accept H_{2b}.

Consequently, H_{2a} that states the value of directors' bonus is negatively associated with firm size, i.e. total number of employee and total sales under the agency theory is **partly accepted**. On a contradictive perspective, H_{2b} that states the value of directors' bonus is positively associated with firm size, i.e. total number of employee and total sales under the power theory is therefore **partly accepted** as well. In other words, our results support agency theory when firm size is measured using total number of employee while power theory is supported when firm size is measured using total sales.

Conclusions and Implications

The study performs descriptive, correlation and multiple regression analysis in order to achieve its objectives. The results from descriptive analysis show that trend of bonus received by the executive directors among Malaysian listed companies (within the sample size) during the period of study from 2004 to 2006 fluctuates as evidenced by the average value of bonus from RM411,000 in 2004 decrease to RM371,000 in 2005 and subsequently increased to RM516,000 in 2006.

The result from the regression analysis provides that directors' bonus is positively related to firms' performance as measured using EPS while no significant relationship is found between directors' bonus and stock return. On top of that, directors' bonus is also found to be positively related to firm size as measured by total sales and negatively related to firm size as measured by total number of employee.

Based on the overall findings summarized above, it is observed that principle of corporate governance, particularly on directors' remuneration as exclusively represented by the directors' bonus is being well practiced in the Malaysian context, particularly for the public listed companies that falls within the sample of the study during the period between 2004 to 2006. This is because the corporate governance which is consistent with agency theory seems to be proven by the findings of the study.

At the very least, it is too soon to conclude on the basis of prior research. However, two out of four variables in this study i.e. EPS and total number of employee support agency theory at best. Power theory, however is only supported by total sales while stock return do not support any of the theories due to no significant association with directors' bonus.

Even though the length of the study period is short and thus, provides a limited view on directors' bonus in Malaysia as a whole, it is believe that this study contributes to the existing knowledge on corporate governance, specifically in respect of directors' remuneration. Furthermore, this study has four characteristics that make it distinctive (replicated from Fattorusso, 2006).

First, many empirical studies on directors' remuneration conducted in the past utilized American and UK data. Therefore, due to a shortage of research on directors' remuneration that utilizes Malaysian evidence, the present study will focus on Malaysian context, specifically among companies that are publicly listed on Bursa Malaysia. Secondly, much of the past research on directors' remuneration has focused on aggregate pay measures. As a result, few, if any studies has analysed exclusively the relationship between bonus pay, as a single feature of directors' remuneration and shareholders' value, further defined as firms' performance and firms' size. Third, the data is current and based on three consecutive years, i.e. 2004 – 2006, that is after the grace period of five years from the year where The Committee carried out a study on

748

corporate governance and Malaysian Institute of Corporate Governance (MICG) was established, i.e. 1998. And finally, this study uses two prominent theories in the executive pay literature, i.e. agency theory and power theory, in order to explain the relationship between directors' bonus and shareholders value.

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RISK RELEVANCE OF ACCOUNTING VARIABLES

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Abstract

The purpose of this study is to analyze the relationship between market risk and accounting variables for determining the relevant key accounting variables and the risk relevance of accounting information. In this regard, twelve accounting variables are selected and classified into operating risk (7 variables), financing risk (2 variables), and growth risk (3 variables). The statistical population includes the listed companies in TSE and a sample of 61 firms during the period 1997-2006. A multivariate regression is used to test hypotheses. The results indicate that there is no significant relationship between accounting variables and systematic risk.

Key words: operating risk, financing risk, growth risk,accounting variables

JEL Classification :G14,G30

Introduction

Investments are one of the basic and crucial elements of the economic growth and development process in every country. Investors try their best to invest their funds in ways that would yield the best return with lowest risk possible. One of the methods for calculating systematic risks of companies is to utilize accounting

information. Therefore it is of great significance to recognize the relationship between systematic risk and accounting information.

To predict net future cash flows, investors usually need information on timings and amounts, access to risk, and the appropriate rate of interest for discounting expected cash flows of the entity. Therefore, one of the basic information necessary for investors is the investment risk. Risk can be defined as the probability of a difference between real returns and expected returns (Jahankhani and Parsayian, 1997).

In financial literature, risk has been addressed from various aspects. According to one approach, risk can be classified into two categories. The first category, consist of risks related to internal factors within a company. These types of risks are unique to the company and are not related to risks within other companies; and may therefore be unique to an industry. This is called non-systematic risk (avoidable). The second category includes risks not related to one or more companies; but rather to the market in whole. These types of risks are created due to factors such as macro-economic indices; they influence the total market yield and are called systematic risks (unavoidable). This risk is defined as those fluctuations in the return on assets that relate to the simultaneous influences of several factors on the price of that asset (Brimble & Hodgson, 2002).

Risk management is one of the significant components of a guidance system within an entity. This is a subject addressed even by small companies with a not very diversified range of activities. Moreover, beta cannot be directly measured

through changes in stock price of companies not traded in the stock market, as a substitute for systematic risk. This creates certain problems in estimations of capital expenditures and the structure of risk in companies not traded in the stock market. Past researches reflect that accounting variables contain material information for measuring risks. Therefore testing accounting variables related to the measurement of systematic risk contains information content for investors and managers as a substitute for estimations made based on market information (Brimble & Hodgson, 2002).

Earlier, researches were performed on the relationship between risks and accounting information by Beaver, Kettler and Scholes (1970) in the United States and Castagna and Matolcsy (1987) in Australia; however much dispersion can be observed in the performance of these studies.

According to Ryan (1997), there are five stimuli for performing researches related to measuring systematic risk: (1) expansion of criteria for the measurement of incurred risk, (2) determining actual risk instead of risk levels, (3) resolving risk identification problems for companies not traded in the stock market, companies offering stocks to the market for the first time, and institutions with little commercial background, (4) reducing noise in estimations of risks based on historical return of securities, (5) expansion of trading solutions and the ideal composition of a portfolio with varying levels of risk. In fact accounting data are used as substitutes for security prices or adjustments of prices determined based on systematic risk.

The main objective of previous researches that have been performed in this field has been to discover key variables for risk assessment. Results of these researches have helped in proposing amendments to the rules governing financial disclosure; this ensures an appropriate level of disclosure, to stockholders, of a relative risk in financial information. This has therefore been useful in decision makings regarding the allocation of assets. To solve the problem of the inflexibility of historical cost based accounting systems, some researchers have initiated discussions on the expansion of a set of standards relating to accounting risk (Scholes, 1996; Ryan, 1997). According to them, accounting based on current values can offer more effective information to users to assist them in evaluating the company's risks (Ryan, 1997).

In this research, various methods have been used to expand earlier studies. First, accounting variables related to systematic risk based on the market model have been identified using coherency methods. These variables have been classified into three groups, namely operational, financing and growth risks. Secondly, aside from the Market model, indices such as certain factors within the company were used to illustrate the dynamic nature of risk with time. In this method, we analyzed whether or not accounting variables as identified in this study were able to adjust themselves to dynamic and changing environmental conditions.

History of Research

Systematic risk points out the variability of the company yield which is linked with the market factors and is not eliminated with diversification. The usual method used for the estimation of systematic risk is the Capital Assets Pricing Model (CAPM) which is also used for the calculation of the Beta moving average (Sharpe, 1964; Lintner, 1965). Therefore certain studies in the field of accounting have attempted to identify those accounting variables which can be related to the mentioned criterion for risk assessment. The key issue here is the role played by some of the accounting variables in determining systematic risk (Ryan, 1997; Laveren et. al., 1997). Upon determination of the variables, a model was presented that would link systematic risk with accounting variables in theory (Penman, 2001).

Ball and Brown (1969), have examined the relationship between systematic risk and accounting income. They have considered three types of income as variables: operational income, net income and stockholders' share of income. The statistical population consists of 261 companies listed in US Stock Exchange between 1946 and 1966. Data obtained have been analyzed through regression methods. Results have reflected a significant relationship between systematic risk and accounting variables.

Beaver, Kettler and Scholes (1970), have attempted to examine the relationship between market fluctuations and accounting variables. For this purpose, seven accounting variables have been chosen and their relationship with systematic

risk tested. These include dividends, asset growth, financial leverage, company size, current ratio, income standard deviation, and accounting beta. The period of the research was between 1947 and 1965 and the statistical population involved 307 companies listed in US Stock Exchange. They used regression for testing the research hypothesis. Results reflected a significant relationship between only three variables namely dividends, asset growth and income standard deviation with systematic risk. The relationship between the first variable and risk was negative and the relationship between the second and third variables was positive. In general the results indicate that the accounting variables listed above can only justify 45 percent of the partial fluctuations of the market beta.

Gonedes (1973), has examined the relationship between accounting numbers and risk. In his study independent variables include net income, accounting income and stockholders' net worth and the dependent variable is systematic risk. Time span of the research involves the years between 1946 and 1967 and the statistical population consists of 99 companies listed in New York Stock Exchange.

He has designed his hypotheses as follows:

- A significant relationship exists between operational income and systematic risk

- A significant relationship exists between net income and systematic risk

- A significant relationship exists between changes in stockholders' net worth and systematic risk

To test the hypotheses, correlative tests and regression analysis was used. Results from analysis of data indicated the approval of all three hypotheses. Therefore, Gonedes concluded that considering the significant relationship between these variables and market risk, information relating to accounting variables is useful in the assessment of systematic risk.

Beaver and Manegold (1975), have also examined the relationship between certain accounting ratios and systematic risk. The objective of the study has been to examine the relationship between systematic risk of the market and risks based on accounting numbers. They have considered the ratio of net income to market value of common stocks, the ratio of asset return, and the ratio of return on net worth, as indices of accounting variables. The statistical population of the research consisted of 254 companies listed in New York Stock Exchange between 1955 and 1961. The research was of a correlative type and regression analysis was used for testing the hypotheses. Results indicated that a significant relationship exists between accounting ratios mentioned above and systematic risk.

Bildersee (1975), has examined the relationship between accounting variables and market risk. The objective of this research is to study the usefulness of accounting information in assessing systematic risk. Therefore, previous researches and variables used in them were studied and accordingly certain accounting variables were chosen as independent variables. These include the ratio of liabilities to common stock, liabilities to total assets, liabilities to market

value, quick ratio, current ratio, dividend ratio, interest coverage ratio, EPS growth, Company Size, Accounting Beta and the ratio of preferred stock to common stock. The statistical population of the research consisted of 71 companies listed in New York Stock Exchang between 1956 and 1966. Correlation coefficients and regression analysis were used. Results of the study reflected that among all variables mentioned above only 5 held significant relationships with systematic risk. These variables included: ratios of liabilities to common stock, preferred to common stock, sales to common stock, current ratio and the variability of income coefficient.

Ismail & Kim (1989), have performed a study titled "Studying the Relationship between Variables Related to Cash Flows and Systematic Risk". They have used variables indicative of cash flows of the entity. Variables selected for this purpose included stockholders' net worth, stockholders' net worth and depreciation, stockholders' net worth plus depreciation and deferred taxes, net cash flows from operations. The information was obtained from financial statements of 272 companies listed in New York Stock Exchange between 1975 and 1987. Considering the research was of a correlative type, correlation coefficients and regression analysis were used. Results indicated that a significant relationship exists between all four variables mentioned above and systematic risk.

Brimble and Hodgson (2003), studied the relationship between accounting variables and risk. They divided accounting variables into three categories

namely, operational , financing and growth risks.statistical population of the research consists of 129 companies listed in Australian Stock Exchange between 1991 and 2000. The financial information relating to them were obtained and studied and results from regression tests indicated that more than 57 percent of changes in systematic risk could be verified according to the variables selected in the model.

Fraser et al. (2004), examined the partial relationship between risk and return. Information relating to returns was obtained from monthly publications of the British Stock Exchange from February 1975 to December 1996. Beta, in this study, represented risk and was calculated using the ARCH model. The research was of a correlative type and regression analysis was used for this purpose. Results of the study indicated that a negative partial relationship existed between risk and return.

Elyasiani and Iqbal Mansur (2005), studied the relationship between risk based market figures and accounting financial ratios. The statistical population consisted of 52 financial institutions in Japan, for which the financial information was obtained and examined between 1986 and 1996. Results from regression tests indicated that a significant relationship existed between financial ratios and market risk. They also performed a comparative study on the relationship between risk and financial ratios that play a critical role in decision making between the United States and Japan. Results of this study showed that the relationship between risk based on market figures and financial risk is weaker in

Japanese financial institutions than American institutions for the same period of time.

Abdelghany (2005), has studied the relationship between market risk and risk based on accounting figures. The objective of this study has been to determine the level of disclosure of information needed by companies for the purpose of predicting market risk; since disclosure of certain accounting variables that have a significant relationship with risk may not be made according to SEC regulations, or be inadequate. For this purpose 323 companies listed in New York Stock Exchange were tested. Research variables included financial and operational leverage, company size, current ratio, income growth and dividends distributed. He used regression analysis. Results of the research reflected that all research variables have a significant relationship with systematic risk (Beta).

Giner and Reverte (2006), have examined the information content of accounting figures for assessing investment risks. The objective of this study was to assist investors in measuring capital expenses and to make the appropriate decisions regarding the allocation of resources. For this purpose, the relationship between capital expense and risk based on accounting figures was tested. The statistical population of the study involved all non-financial companies listed in Madrid Stock Exchange between 1987 and 2002. For the calculation of capital expenditures, a valuation method based on retained earnings was used. Results indicated that a significant relationship existed between capital expenditure and risk based on accounting figures .

Hopkins et al. (2006), studied the relationship between income and risk. For this purpose three variables were used as indices namely net income, comprehensive income and income based on market value. The statistical population of the research included 202 commercial banks of the United States between 1994 and 2004. Results from correlation tests and regression analysis indicated that the correlation coefficient between income based on market value and risk is higher than the other variables. In other words, income based on current market values holds a closer relationship with risk as compared to the other variables.

Campbell et al. (2007), have studied the relationship between upper level managers' incentives and the non-financial risk of companies. The objective of this study has been to investigate the effects of the performance of upper level managers and their incentives on company risk. The statistical population of the study included 514 companies active in petrochemical products and listed in New York Stock Exchange between t 1992 and 1994. The time span was chosen as such since these were the first couple of years that new regulations had been enforced for the reporting of information relating to companies active in the mentioned industry. They used correlation coefficient and regression analysis to test the relationship between these two variables. Results of the study reflected that a significant relationship exists between upper level managers' incentives and non-financial risk.

A number of studies on risk have also been carried out in Iran. Among these include researches by Ahmadpour and Namazi(1998) titled "The Effects of Operational and Financial Leverage and Company Size on Systematic Risk, Nowravesh and Vafadar(1999) titled "Investigating the Usefulness of Accounting Information in Assessing Market Risk" and Namazi and Khajavi(2004) titled "Usefulness of Accounting Variables in Predicting Systematic Risk in Companies Listed inTehran Stock Exchange".

The difference between the present study and similar studies performed in Iran is that none of the previous studies had classified accounting variables based on their influence on risk.

Research Hypotheses

The following hypotheses have been introduced according to the literature:

First Hypothesis: A significant relationship exists between operational and systematic market risk.

Second Hypothesis: A significant relationship exists between financing and systematic market risk.

Third Hypothesis : A significant relationship exists between growth and systematic market risk.

Method of Research

The present study attempts to investigate the usefulness of accounting variables in market risk assessment. The study is an applied and historic type.

If collected data relates to events that have occurred in the past, the research can said to be historic (Delavar, 2001). The objective of applied researches is to expand the applied body of knowledge in a specified field (Sarmad et al., 2002). The present research can also be considered a descriptive type based on the data collection method and a correlative study based on the method of testing the hypotheses.

Following the collection of data, accounting variables that were classified into three groups namely operational, financing and growth risk, were calculated in the excel software and subsequently the normality of data distribution (Kolmogorov-Smirnov) was tested. In case the distribution of variables is not normal, results from the analysis of data may not be reliable. Correlation of independent and dependent variables was tested using the multi variable regression model and the hypotheses were also tested using Excel and SPSS 13.0 software and correlation coefficient analysis.

Research Variables

To determine research variables, twelve accounting variables were chosen based on the literature and were classified into three categories, namely operational, financing and growth risks, as reflected in Table 1.

Table 1: Independent and Dependent Variables			
	Type of Risk	Variable	Abbreviation
Independent	Operational Risk	Accounting Beta Income (Earnings) Variance Earnings Symbol Cash Flows Dividend Paid Ratio Operational Leverage Liquidity	β_{Accit} EV_{it} ES_{it} CF_{it} DPR_{it} $OPLev_{it}$ Liq_{it}
	Financing Risk	Financial Leverage Interest Coverage	$FLev_{it}$ $Icov_{it}$
	Growth Risk	Growth Size Market to Book Value	Gth_{it} $Size_{it}$ $Mrkt/Bk_{it}$
Dependent	Systematic Market Risk	Beta	β_i

The multi variable regression was then used to illustrate the relationship between accounting variables and systematic risk (Brimble & Hodgson, 2002). The model has been presented as follows:

$B_{it} = \alpha_i + b_1\,\beta_{Accit} + b_2\,EV_{it} + b_3\,ES_{it} + b_4\,CF_{it} + b_5\,Gth_{it} + b_6\,Size_{it} + b_7$

$DPR_{it} + b_8\,Liq_{it} + b_9\,Flev_{it} + b_{10}\,Icov_{it} + b_{11}\,OPLev_{it} + b_{12}\,Mrkt/Bk_{it} + \varepsilon_{it}$

B_{it} = Systematic Market Risk

β_{Accit} = Accounting Beta

EV_{it} = Earnings Variance

ES_{it} = Earnings Symbol

CF_{it} = Cash Flows

Gth_{it} = Growth

Size$_{it}$ = Size

DPR$_{it}$ = Dividend Paid Ratio

Liq$_{it}$ = Liquidity

Flev$_{it}$ = Financial Leverage

Icov$_{it}$ = Interest Coverage

OPLev$_{it}$ = Operational Leverage

Mrkt/Bk$_{it}$ = Market to Book Value

$α_i$ Regression Slope and $ε_{it}$ represent calculation errors

Research variables have been calculated as follows:

Operational Risk

This category of risks is made up of seven variables namely, Accounting Beta, Earnings Variance, Earnings Symbol, Cash Flows, Dividend Paid Ratio, Operational Leverage and Liquidity.

1) *Accounting Beta*

Beta represents systematic risk based on accounting figures and is related to extensive economic factors. Accounting Beta is calculated as follows (Bowman, 1979):

$β_{ACCIT}$ = Cov (Xi, Xm) / Var (Xm)

Where β_{ACCIT} is Accounting Beta, X_i is yield for company I, and X_m is yield for market portfolio.

2) *Income (Earnings) Variance*

To calculate standard deviation of earnings in time t, average net income was first calculated for a time period of ten years, and subsequently the standard deviation was calculated relative to the average figure (Beaver, Kettler & Scholes, 1970; Bildersee, 1975; Castagna & Matolcsy, 1975).

3) *Earnings Symbol*

Is an implicit variable which is shown with zero where income is negative in a specific time period, and is represented by one where income is a positive number (Hayn, 1995).

4) *Cash Flows*

Cash flows is defined as the stockholders' share of revenue divided by beginning of the year market value of capital (Ismail & Kim, 1989).

5) *Dividend Paid Ratio*

The ratio was calculated by dividing the average dividends paid in period t to stockholders' investing in common stock (Beaver, Kettler & Scholes, 1970; Castagna & Matolcsy, 1978). In other words the ratio was calculated through dividing dividends paid for each share by earnings per share.

6) *Operational Leverage*

To calculate the operational leverage, income before interest expense and taxes in a specific period is divided by sales in the same period (Lev, 1974; Rosenberg & Mc. Kibben, 1973). The ratio can also be considered as premium risk of income (Penman, 2001).

7) *Liquidity*

To calculate liquidity in this study, the ratio of current assets to current liabilities at year end was used. The ratio is equal to operational liability leverage risk (Castagna & Matolcsy, 1978; Beaver, Kettler & Scholes, 1970).

Financing Risk

This risk involves two accounting variables namely financial leverage and interest coverage, which are significant in the determination of the company's financing status.

Financial Leverage

To calculate the financial leverage in this research, total liabilities in a specific period have been divided by total assets in the same period (Beaver, Kettler & Scholes, 1970; Castagna & Matolcsy, 1978).

Interest Coverage

This variable has been calculated as income before taxes plus total interest expense divided by total interest expense in period t (Rosenberg & Marathe, 1975; Bildersee, 1975).

Growth Risk

This risk is made up of three groups of accounting variables namely growth, size and the market to book value ratio.

1) Growth

For purposes of calculating growth, the logarithm of changes in total assets throughout the period has been used, such that total assets at the beginning of the year have been deducted from year-end total assets and then the related logarithm calculated (Beaver, Kettler & Scholes, 1970; Castagna, Matolcsy, 1978).

2) Size

To calculate the variable of size, criteria such as the logarithm of total assets or sales has been used. However due to inflation and the irrelevance of historic figures relating to assets, the logarithm of the market value of stockholders' equity at year-end was used to measure company size (Ataise, 1985; Freeman, 1987).

3) Market to Book Value Ratio

In the present study, market to book value ratio per share, is equal to the market value of common stocks at year-end divided by the book value of the same stocks at the same date.

Period of Research and Statistical Population

The time period of the research is between 1997 and 2006. Since no information was available for the year 2006 for all the industries listed in TSE, three industries namely automobiles and parts, chemical products and machinery and equipment were chosen on the basis of the criteria mentioned in the research. Among the 97 companies listed in the mentioned three industries at the end of the year 1996, 61 companies were qualified and information relating to a period of ten years (1997-2006) was studied. Table 2, reflects the number of companies in each of the three industries and the number of companies selected as the statistical sample.

Table 2: The number of sample companies

Category	Industry	No. of Companies Active in Industry	No. of Companies in Sample
1	Automobiles and parts	30	19
2	Chemical Products	34	19
3	Machinery and Equipment	33	22
	Total	97	60

Research Results

To test the normality of data distribution, the Kolmogorov-Smirnov test was applied and the following hypotheses introduced:

H_0: Data distribution is normal

H_1: Data distribution is not normal

According to the information in Table 3, the significance of all variables was higher than the standard level (α= 5%), therefore H_0 was approved.

Table 3: Normality of Data Distribution using the Kolmogorov-Smirnov Test

Variables	Kolmogorov-Smirnov Parameter	Significance
Accounting Beta (β_{ACCIT})	0.960	0.313
Earnings Variance (EV_{it})	0.694	0.734
Earnings Symbol (ES_{it})	0.493	0.212
Cash Flow (CF_{it})	0.959	0.323
Dividend Paid Ratio (DPR_{it})	0.477	0.645
Operational Leverage ($OPLev_{it}$)	0.898	0.454
Liquidity (Liq_{it})	0.676	0.678
Financial Leverage ($Flev_{it}$)	0.565	0.220
Interest Coverage ($Icov_{it}$)	0.343	0.567
Growth (Gth_{it})	0.567	0.564
Size ($Size_{it}$)	0.981	0.259
Market to Book Value Ratio ($Mrkt/Bk_{it}$)	0.212	0.312

Since the hypotheses attempted to find a relationship between the two variables, primarily the correlation coefficient (r) of the two variables was calculated. Subsequently, the significance of the correlation coefficient was tested.

Table 4: Table of Regression Coefficients

αi (Constant)	-19.691
Earnings Variance (EV_{it})	-1.000000054
Earnings Symbol (ES_{it})	0.756
Cash Flow (CF_{it})	-0.445
Growth (Gth_{it})	-1.394
Size ($Size_{it}$)	2.107
Dividend Paid Ratio (DPR_{it})	0.194
Liquidity (Liq_{it})	0.051
Financial Leverage ($Flev_{it}$)	3.733
Interest Coverage ($Icov_{it}$)	-3.0000067
Operational Leverage ($OPLev_{it}$)	1.070
Market to Book Value Ratio ($Mrkt/Bk_{it}$)	-0.006

Therefore, the regression model was presented as follows:

B_{it} = -19.691 -1.000000054 EV_{it} + 0.445ES_{it} - 0.756 CF_{it} -1.394 Gth_{it}

+2.107$Size_{it}$ + 0.194DPR_{it} + 0.051 Liq_{it} + 3.733$Flev_{it}$ -3.0000067 $Icov_{it}$

+1.070 $OPLev_{it}$ -0.006$Mrkt/Bk_{it}$

Considering the above mentioned facts, results of each test performed for

the hypotheses can be presented as follows:

Results Obtained from Testing the First Hypothesis

First Hypothesis:

A significant relationship exists between operational and market systematic risk.

The corresponding statistical hypothesis may be defined as follows:

H_0: No significant relationship exists between operational and systematic market risk

H_1: A significant relationship exists between operational and systematic market risk

Table 5 reflects the results obtained from testing the first hypothesis.

Table 5: Results of Testing the First Hypothesis

Variables	Market Beta	Earnings Variance	Earnings Symbol	Cash Flows	Dividends Paid Ratio	Financial leverage	Liquidity
Pierson's Correlation	1	0.011	0.009	0.012	0.006	0.01	-0.032
Probability	----	0.935	0.817	0.759	0.890	0.810	0.425
Number	610	61	610	610	610	610	610

When testing the first hypothesis, it was concluded that despite P-value $\geq \alpha =$ 5%, none of the variables are significant. Therefore, it can be said that no significant relationship exists between operational and systematic market risk. The results did not conform to the conclusions obtained in the year 2002. Brimble and Hodgson (2002), have concluded that the accounting variables that compose operational risk in assessing market risks are material and contain useful information.

Results Obtained from Testing the Second Hypothesis

Second Hypothesis:

A significant relationship exists between financing and systematic market risk.

The corresponding statistical hypothesis may be defined as follows:

H_0: No significant relationship exists between financing and systematic market risk

H_1: A significant relationship exists between financing and systematic market risk

Table 6 reflects the results obtained from testing the second hypothesis.

Table 6: Results of Testing the Second Hypothesis

Variables	Market Beta	Financial Leverage	Interest Coverage
Pierson's correlation	1	0.29	0.000
Probability	----	0.470	0.999
Number	610	610	610

When testing the second hypothesis, it was concluded that despite P-value ≥ α = 5%, none of the variables are significant. Therefore, it can be said that no significant relationship exists between financing and systematic market risk. The results conformed to the conclusions obtained in the year 2002. Brimble and Hodgson (2002), have concluded that the accounting variables that compose financing risks are less material in predicting future risk.

Results Obtained from Testing the Third Hypothesis

Third Hypothesis:

A significant relationship exists between growth and systematic market risk.

The corresponding statistical hypothesis may be defined as follows:

H_0: No significant relationship exists between growth and systematic market risk

H_1: A significant relationship exists between growth and systematic market risk

Table 7 reflects the results obtained from testing the second hypothesis.

Table 7: Results of Testing the Third Hypothesis

Variables	Market Beta	Financial Leverage	Interest Coverage	Book to Market Value
Pierson's correlation	1	0.079	0.036	0.023
Probability	----	0.057	0.376	0.572
Number	610	610	610	610

When testing the third hypothesis, it was concluded that despite P-value $\geq \alpha =$ 5%, none of the variables are significant. Therefore, it can be said that no significant relationship exists between growth and systematic market risk. The results did not conform to the conclusions obtained in the year 2002. Brimble and Hodgson (2002), have concluded that the growth risks contain material information in assessing risks.

Discussion and Conclusion

In the present study, three hypotheses were introduced and tested. Results reflected that no significant relationship exists between any of the variables and systematic market risk.

The absence of any relationship between operational, financing and growth risks with the systematic market risk may be due to the fact that the three risks mentioned above include variables based on historical accounting values and not current market values.

Since the model introduced in this study had never been tested before in Iran and the accounting variables never classified according to their effects on risk, no comparison could be made between results obtained from testing the hypotheses and results from any studies performed within the country.

Results indicate that mere reliance on accounting information presented by companies cannot be a basis for assessing the market beta and it is quite necessary to recognize other factors influencing risks within a company especially in decision making issues. On the other hand it cannot be claimed solely on basis of results obtained herein that accounting information are not useful in the assessment of systematic market risk. Such a claim would be made only upon complimentary researches with due considerations to fluctuations in the country's economy and subsequently in the stock market.

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Comparison of the Value Relevance between the Purchase and Rental Treatment of Leases

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Abstract

The purpose of this paper is to compare the earnings value relevance between rental and purchase treatments, i.e. to examine whether the capitalization of operating leases is appropriate in terms of income measurement rather than as recognition on balance sheets. Because the information on the "as-if" purchase treatment of operating leases is not disclosed, the difference in the value relevance between the rental and purchase treatment of finance leases is examined in order to obtain implications for operating leases. The results show that the value relevance of earnings-via purchase treatment rather than by rental treatment is significantly higher only in 2003. This might imply that investors utilize footnote information only in particular situations.

Although we need further examination of why investors evaluate leases differently only in 2003 and it is important to expand this implication carefully in order to evaluate the relevance of capitalization of operating leases, this paper offers serious implications for the FASB/IASB project.

1   Introduction

The recent joint project of the International Accounting Standard Board (IASB) and the

Financial Accounting Standard Board (FASB) has been to discuss the capitalization of

operating leases as purchase rather than rental transactions.   Prior research such as

that of Ely (1995) and Lindsey (2006) show that the "as-if" capitalized value of

operating leases disclosed in footnotes is related to stock price and equity risk. If

accepted, however, this new proposal will change the treatment of operating leases not

only with respect to balance sheets, but also with respect to income statements. This

paper focuses on the difference in the value relevance of earnings between the two

systems.

Since under current U.S. GAAP the earnings effect of "as-if" capitalized operating

leases is not available, we cannot compare the value relevance of earnings between in

the two systems. Under Japanese GAAP, however, we are able to get information

through 2008 on the earnings of finance leases (known as capital leases in the U.S.)

both by purchase treatment and rental treatment. Finance leases were typically treated

as rentals on the body of financial statements. Supplementary information with respect

to earnings when lessees capitalize finance leases (including the amounts of lease

assets and liabilities, the depreciation expense of lease assets, and the interest

expense for lease liabilities) were disclosed only in the footnotes. I have chosen to

examine a Japanese sample because earnings information in Japan is available both

when finance leases are treated as rentals and (when earnings are adjusted using information found in the footnotes) when finance leases are treated as purchases.

This paper is organized as follows: Section 2 describes the discussion of accounting for leases in the U.S., G4+1 and Japan, Section 3 provides a review of prior research, Section 4 develops hypotheses and describes the research design, and Section 5 summarizes the sample and empirical results. Section 6 discusses the implications of the empirical results and discusses future issues.

2   Accounting for Leases

2.1   Discussions in the U.S. and the IASC

Accounting standard setters in the U.S. such as AICPA, APB and FASB have been expanding the range of the types of leases that they believe should be capitalized by lessees. Although leases are legally regarded as executory contracts and accountants have generally agreed that the rights and obligations arising from executory contracts should not be recognized on balance sheets, standard setters believe that non-cancellable lease commitments are in fact liabilities to lessees and therefore consider it insufficient to disclose this information only in footnotes[85]. .

Under current U.S. GAAP, only capital leases (also known as "finance leases" in Japan) are capitalized. This is because capital leases are non-cancellable and the lessees take almost all of the benefits and risks associated with the leased property.

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[85] FASB (1984), para.9

Such a lease is believed to bear a greater similarity to a purchase contract than it does to a rental contract. As with purchase contracts, the finance lease is considered fulfilled at the time of delivery of the asset to the lessee. (If it is a purchase contract, the contract is considered fulfilled at the time of delivery of the property.) As such, the lessee should recognize the asset and liability associated with the executed contract because finance leases are accounted for as the acquisition of an asset and the incurrence of an obligation by the lessee in the same way as an installment purchase is. All other kinds of leases are classified as operating leases and their rental is charged to expense over the lease term as it becomes payable. Operating leases are considered to be executory contracts in the same way as rental contracts are regarded as executory contracts. In both cases, assets and liabilities are not recognized on the lessees's balance sheet.

In 1996 and 2000[86], G4+1[87] published special reports which proposed that operating leases be capitalized. In their framework, a non-cancellable operating lease is regarded as an installment purchase that allows the purchaser the right to use, but not dispose of the property. Since they believe that the rights and obligations arising from an operating lease meet the definition of an asset and liability, they argue that a

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[86] Mcgregor (1996), Nailer *et al.*(2000)

[87] G4+1 was a working group consisting of members of the standard-setting bodies of Australia, Canada, New Zealand, the UK, the USA and International Accounting Standards Committee (IASC; the predecessor of IASB).

non-cancellable lease should be capitalized on the lessee's balance sheet[88] and that

the resulting asset and liability should be recognized as the present value of the

minimum lease rentals at the inception of the lease. The lease asset is subsequently to

be amortized over the lease term and the lease liability is to be reduced by the part of

the principal of the lease payment calculated based on the discount rate, which

determines the present value of the minimum lease rentals.

2.2 Accounting for leases in Japan

ASBJ, the Accounting Standard Board of Japan, released the new accounting

standard for leases in 2006. This new accounting standard which became effective in

March 2009 is very similar to the SFAS No.13 and IAS No.17 standards.

The older accounting standard was released by the Business Accounting Council

of the Japanese Ministry of Finance[89] (the present Financial Service Agency) in 1993.

Under this standard, lease commitments were divided into two categories: finance

leases and operating leases. The Business Accounting Council's definition of a finance

lease is almost identical to the SFAS's definition of a capital lease[90]. Under the older

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[88] Nailer *et al.* (2000), p.22, par.38.

[89] Prior to 2001, the public sector set accounting standards. The private sector, the Accounting

Standard Board of Japan (ASBJ) was established in 2001 and has been the standard setter

ever since. The ASBJ published new accounting standards for leases which abolished the

exception for capital leases. The new standards became mandatory in 2007.

[90] Income measurement for lessors is calculated slightly differently in Japan than it is in the U.S.

standard, a finance lease was accounted for as a purchase-with-loan. Note, however, that this standard allowed lessees to avoid capitalizing the type of finance lease that did not transfer ownership of the property to the lessee by the end of the lease term. Because firms preferred this off-balance treatment, most finance-lease users arranged lease contracts so as not to be obliged to capitalize them.

Lessees that do not capitalize finance leases are instead required to disclose capitalized information (such as the present value of lease liabilities, the acquisition cost of lease assets, the book value of lease assets after depreciation, the amount of their lease rentals, and depreciation expenses on lease assets and interest expenses on lease liabilities) in the footnotes of their financial statements. Users whose lease liabilities are less than 10% of the sum of the book value of their PP&E and their lease liabilities[91] are also allowed to use a concise footnoting method for disclosing their capital leases. This method allows users to substitute the gross amount of their lease rentals for the present value of the measurement of lease assets and liabilities. In this case, the book value of lease assets and liabilities is the gross amount of the lease

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In the U.S., the revenue measurement for sales-type leases is to be separated from that of direct financing leases whereas in Japan, we treat both types of leases as finance leases. However because this paper focuses on the earnings of lessees, this makes no difference to my argument.

[91] $\dfrac{Lease\,Liability}{BV\,of\,PPE + Lease\,Liability} \geq 10\%$

rentals added to the interest expense on lease liabilities. (Note as well that this information will not appear in the footnotes because the book value of liabilities is the gross amount of lease rentals and the interest rate considered in the measurement is set at zero.) We call the gross amount method the "interest-inclusive method" and the discounted method (i.e. the measurement method that excludes interest) the "interest-exclusive method."

In order to calculate purchase-treatment earnings, we need the information available in the footnotes via the "interest-exclusive method." Here, the adjusted earnings are calculated by adding rental payments back to the reported earnings on income statements and subtracting the depreciation expense of leased assets and the interest expense of lease liabilities.

3   Previous Research

There is a great deal of capital-market research focused on lease accounting. Most fall into one of two categories: the first category investigates the effect of the adoption of ASR No.147 (1973) and SFAS No.13 (1976) on capital markets. ASR No.147, an SEC regulation in effect until 1976, ruled that because most leases were not capitalized, finance leases (known as capital leases under SFAS No. 13) were to be disclosed. As such, "as-if" capitalized financing lease information (the present value of lease rentals, interest rate implicit in computing the present value, and the impact on net income) was available under ASR No.147, and "as-if" capitalized operating lease information (the future minimum lease payments and rental expenses for each period for which an

791

income statement was presented[92]) was available under SFAS No.13. Murray (1981) investigated the market reaction associated with moving lease disclosures from footnotes to the body of financial statements and found that there was no reaction to this change in accounting rules. This finding implies that disclosure in footnotes is of equal value to recognition on balance sheets.

The second area of research investigates the value relevance of footnote information, i.e. financing lease information under ASR No.147 and operating lease information under SFAS No.13. Ro (1978) and Bowman (1980) show that markets evaluate the footnote information of "as-if" capitalized financing lease under ASR No.147. Ely (1995) and Lindsey (2006) examine the value relevance of footnote information of "as-if" capitalized operating leases under SFAS No.13 and show that in general, footnote information on leases is evaluated in determining stock price. Note that all of the above research focuses only on the balance sheet effect of capitalization.

There is very little research on the earnings effect of capitalization. Under current U.S. GAAP, the earnings effect of "as-if" capitalized operating leases is not available. ASR No.147 (1973) required the disclosure of lease information having to do with non-capitalized financing leases, such as the impact on net income if such leases had been capitalized. Ro (1978) investigated the market reaction associated with this additional disclosure and showed that the difference between purchase and rental treatment was related to the distribution of returns on securities. Perhaps surprisingly,

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[92] FASB (1976), para.16

there is no research that compares the value relevance of earnings by purchase treatment with that of earnings by rental treatment. This paper therefore examines the difference in the value relevance of earnings when finance leases are treated as purchases and when they are treated as rentals.

4 Developing Hypothesis and Research Design

As described above, the purpose of this paper is to compare the earnings value relevance between rental and purchase treatments by using a sample drawn from Japan in which rental-treatment earnings are reported in the body of income statements and purchase-treatment earnings, which require calculation adjustments derived data available in the footnotes.

There is empirical evidence that investors efficiently incorporate information derived both from footnotes and from the body of income statements (Murray (1981), implying that the former is not inferior to the latter. If adjustment earnings explain stock prices more fully than do earnings disclosed in the body of income statements, we can reasonably infer that adjustment earnings offer more information than either of the other disclosure methods. Information offered as a result of the earnings-by-purchase-treatment method offer data (such as the lessee's incremental borrowing rate) not included in the earnings by rental treatment method. We can therefore expect that the earnings of firms that disclose lease expenses via the purchase treatment have incremental explanatory power with respect to stock prices. The hypothesis is therefore as follows:

H_1: The earnings of firms that disclose lease expenses via the purchase-treatment

methodology have incremental explanatory power with respect to stock prices.

Since this paper investigates the value relevance of earnings to stock prices, its

model is based on the permanent-earnings-discount-model.

The relation between the market value of a firm's common equity and earnings is

given by:

$$MVE_{it} = \frac{E(\pi_{pit})}{r_{it}} \qquad (1)$$

Where MVE_{it} is the market value of equity for firm i at year t, $E(\pi_{pit})$ are expected

permanent earnings for firm i at time t, and r_{it} is the discount rate for firm i at time t. The

net income includes operating profit, ordinary profit and contains transitory components

(similar to extraordinary items in U.S. GAAP) including "special profits and loss" in

Japanese GAAP. As such, I use the ordinary profit (OP) (the sum of operating income

and financing income) as the proxy variable for permanent earnings.

$$P_{it} = \alpha + \beta_0 OP_{it} + \beta_1 D_{OP} * OP_{it} + \beta_2 \sum INDUSTRY + \varepsilon_{it} \qquad (2)$$

I input the stock price of firm i at the fiscal year end of year t (P_t) for the market value of

equity. (Note that positive and negative earnings typically have different coefficients). I

then consider the dummy variable for negative operating profit (D_{OP}). When OP has a

negative value, D_{OP} is assigned a value of one, otherwise it is set at zero.

$INDUSTRY_{it}$ is a categorical variable to control for the effect of industries in

accordance with the industrial code provided by Nikkei NEEDS.

For the regression analysis for H_1, regression (2) is modified as below:

$$P_{it} = \alpha + \beta_0 OP_{it} + \beta_1 D_{OP} * OP_{it} + \beta_2 D_{PTit} * OP_t + \beta_3 \sum INDUSTRY_{it} + \varepsilon_{it} \quad (3)$$

D_{PT} denotes the dummy variable for purchase treatments that are described in footnotes. When the footnote information is disclosed through the interest-exclusive method, D_{PT} takes one, otherwise it takes zero. As we can expect that the earnings of firms that disclose lease expenses via the purchase treatment have incremental explanatory power with respect to stock prices, $\square_2$ is expected to be different to zero. To avoid the heteroscedasticity problem, all variables are deflated by the prior stock price (P_{t-1}).

Under Japanese GAAP, the "interest-exclusive method" is only used by firms whose lease liabilities are more than 10% of the sum of the book value of their PP&E and their lease liabilities[93].

I then compare the value relevance of earnings by rental treatment with that of adjusted earnings by purchase treatment. Therefore:

H_2: The adjustment-ordinary profits garnered by using footnote information are more relevant to stock prices than are ordinary profits reflected on income statements.

If investors adjust ordinary profit by using information provided in the footnotes, the regression formula can be modified as follows:

$$P_{it} = \alpha + \beta_0 adjOP_{it} + \beta_1 D_{adjOPit} * adjOP_{it} + \beta_2 \sum INDUSTRY_{it} + \varepsilon_{it} \quad (4)$$

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[93] Note that I cannot deny the possibility that D_{PT} of regression (5) could be a proxy for something related to incentives for leases.

Where *adjOP* is calculated by adding lease rental paymentsback into the ordinary profit

reported on the income statement and by reducing the depreciation expense on lease

assets and interest expense on lease liabilities. (*adjOP=OP + lease rentals -*

deprecation expenses on lease assets + interest expenses on lease liabilities.) To

assess the relative explanatory power of ordinary profits and adjusted ordinary profits, I

adopt the Vuong test that tests the superiority and inferiority between the models[94]. I

then compare the explanatory power of $adjOP_t$ with *OP* by using the Vuong test for H_2.

5 Empirical Results

The sample consists of firm-year observations from 2000 to 2006 pertaining to all

Japanese stock markets. I obtained data based on the following criteria: data were to

(1) be from non-financial firms only, (2) have a fiscal year ending March 31[95], and (3)

have no missing values for any of the variables. Accounting figures and stock prices on

March 31 were obtained from Nikkei NEEDS. *OP* was extracted from income

statements and "as-if" capitalized lease expenses were extracted from footnotes. All

variables were calculated per share and deflated by prior stock value P_{t-1}.

I created a dummy variable for firms that disclose finance lease expenses in

footnotes via the interest-exclusive treatment (D_{PT}). When a firm discloses the interest

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[94] See Ota and Matsuo (2004).

[95] In Japan, the typical end of the fiscal year is March 31. When the stock market was closed on

March 31, I took the stock prices from the last day of March during which the market was open.

on financing lease rentals, (i.e. the firm has disclosed both depreciation expense and interest expense) it has treated the lease as if it were a purchase,

D_{PT} takes one, and zero otherwise. I also created a dummy variable for finance lease users (D_{FL}) that takes one when a firm discloses financing lease rentals and takes zero otherwise.

Panel A of Table 1 summarizes the descriptive statistics of each variable. The mean of D_{FL} shows the proportion of the finance-lease users in the sample. The table shows that approximately 95% of the sampled firms use finance leases. This might be evidence that finance leases are very common in Japanese firms because lessees can take off-balance sheet treatment and because firms prefer finance leases to purchases-with-loan. From the perspective of tax savings, the amount of a finance lease disbursed can be allocated over a shorter period than in the case of a "purchase-with-loan," under the condition that the sum of the finance lease rentals are equal to that of "purchase-with- loan," or installment purchases. The mean of the D_{PT} is approximately 35%. Firms disclosing the interest paid in financing lease rentals are disclosing information via the "interest-inclusive method." In this case, D_{PT} takes one, and zero otherwise. The mean of D_{PT} therefore shows the proportion of firms in the sample that use the interest-inclusive method. The results imply that not all finance lease users disclose information via the interest-inclusive method.

Note as well that the difference between *OP* and *adjOP* is very subtle. The fact that the ratio of disclosure of information with respect to purchase treatment is only 35%

means that there is no difference in 65% of the sample. The substantial difference of

OP and adjOP can be seen in Panel B of Table1.

Table 2[96] shows the results of regression (2) by using the sample for 2000 to 2006.

The coefficient on $D_{PT}*OP_t$ ($\beth_2$) is significantly different to zero at the 5% level in 2002

and at the 1% level in 2003. This result shows that D_{PT} is not always related to stock

price, because the coefficient on $D_{PT}*OP_t$ is not consistently significant over the sample

period.

Table 3 shows the results of the Vuong-test for regressions (3) and (4) using

samples from 2000 to 2006. This table shows that adjusted ordinary profits do more to

explain stock prices than do ordinary profits on income statements in 2003 at the 10%

level. Note that in other years there is no significant difference between the explanatory

power of ordinary profits and that of adjusted ordinary profits.

In 2003, H1 is supported at the 1% level and H2 is supported at the 10% level.

These results imply that investors utilize the information only in very specific situations.

One reason considered is the change in accounting standards for lease amendments.

The ASBJ organized the committee that deliberated over lease accounting in July of

2002. The aim of the committee was to make finance lease users capitalize finance

leases. As such, investors may have regarded finance leases as purchases in March of

2003. This scenario, however, leaves us with the following problem: Why is it that in

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[96] The table omits results of my controlling for the effect of industries in which I use the dummy

variables.

2004 and afterwards, adjusted ordinary profits do not do more to explain stock prices

than do ordinary profits?

Table 4 shows another reason considered. This table shows interest rates for

finance leases and newly issued government bond yield from 2000 to 2006. The

interest rates of finance lease are roughly calculated as the average of the finance

lease interest rates (interest expense/lease liabilities) of the firms that disclose footnote

information via the purchase treatment. The table shows that the interest rate in 2003

was generally lower than in other years and that the interest rate on finance leases in

2003 was not as low as in other years studied. Since finance lease contracts are non

cancellable, lessees can not refinance lease debts even though the interest rate is very

low. This might imply that investors make a certain evaluation with respect to lessees'

inability to refinance and did so particularly in 2003.Future studies examining the

relationship between economic circumstances (particularly interest rates) and

economic function of leases will clarify the validity of these proposed arguments.

6   Conclusions

The purpose of this paper is to compare the earnings value relevance between

rental and purchase treatments, i.e. to examine whether the capitalization of operating

leases is appropriate in terms of income measurement rather than as recognition on

balance sheets. Because the information on the "as-if" purchase treatment of

operating leases is not disclosed, the difference in the value relevance between the

rental and purchase treatment of finance leases is examined in order to obtain

implications for operating leases. The results show that the value relevance of earnings-via purchase treatment rather than by rental treatment is significantly higher only in 2003. This might imply that investors utilize footnote information only in particular situations, as described above. The two scenarios discussed above have different implications with respect to the FASB/IASB project. If we assume that investors only used footnote information in 2003 because of the accounting amendment, we can assume that the 2003 experience left investors believing that using footnote information was not useful. This would imply that earnings as described via the purchase treatment are not as useful as standard-setting bodies imagine they will be.

On the other hand, if we assume that investors made a certain evaluation with respect to finance lease users because of the lower interest rate, the purchase treatment of finance leases can be imagined to offer more information relevance to the stock value than the rental treatment does.

Although it is important to expand this implication carefully in order to evaluate the relevance of capitalization of operating leases, this paper offers serious implications for the FASB/IASB project.

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EXHIBIT 1 Variable Definitions

P_t = The market value of equity at the end of March in year t.

OP_t = The operating profits reported as described in the income statement of year t

$adjOP_t$ = Operating profit recalculated by adding the lease rentals back in and reducing the depreciation expense on lease assets and the interest expense on lease liabilities

D_{OP} = The dummy variable for negative operating profits

D_{PT} = The dummy variable for purchase treatment in footnotes

Table 1 Descriptive Statistics

Panel A   **Descriptive Statistics for variables**

2000

	Mean	Median	Max	Min	S.D.	Sum	N
Pt	1.118	0.936	8.654	0.294	0.703	1887.856	1689
OP	0.0824	0.0781	0.873	-0.935	0.129	139.250	1689
adjOP	0.0826	0.0780	1.050	-0.935	0.130	139.570	1689
FL firm	0.958	1.000	1.000	0.000	0.201	1618.000	1689
PT firm	0.323	0.000	1.000	0.000	0.468	545.000	1689

2001

	Mean	Median	Max	Min	S.D.	Sum	N
Pt	0.968	0.937	5.802	0.004	0.354	1648.680	1703
OP	0.1113	0.1019	1.013	-2.179	0.157	189.559	1703
adjOP	0.1114	0.1015	1.050	-2.179	0.157	189.691	1703
FL firm	0.958	1.000	1.000	0.000	0.200	1632.000	1703
PT firm	0.327	0.000	1.000	0.000	0.469	557.000	1703

2002

	Mean	Median	Max	Min	S.D.	Sum	N
Pt	0.888	0.885	6.023	0.096	0.286	1539.647	1734
OP	0.0680	0.069	1.947	-2.058	0.171	117.836	1734
adjOP	0.0681	0.069	1.947	-2.058	0.171	118.063	1734
FL firm	0.954	1.000	1.000	0.000	76.309	1654.000	1734
PT firm	0.341	0.000	1.000	0.000	389.887	592.000	1734

2003

	Mean	Median	Max	Min	S.D.	Sum	N
Pt	0.880	0.868	3.026	0.001	0.304	1526.768	1734
OP	0.1077	0.0973	3.453	-1.141	0.188	186.680	1734
adjOP	0.1078	0.0973	3.453	-1.139	0.188	186.907	1734
FL firm	0.945	1.000	1.000	0.000	0.228	1639.000	1734
PT firm	0.356	0.000	1.000	0.000	0.479	617.000	1734

Panel A (continued)

2004

	Mean	Median	Max	Min	S.D.	Sum	N
Pt	1.754	1.544	17.720	0.038	0.959	3005.070	1713
OP	0.1664	0.1397	5.061	-0.980	0.221	284.967	1713
adjOP	0.1664	0.1397	5.061	-0.981	0.221	285.115	1713
FL firm	0.946	1.000	1.000	0.000	0.227	1620.000	1713
PT firm	0.361	0.000	1.000	0.000	0.480	618.000	1713

2005							
	Mean	Median	Max	Min	S.D.	Sum	N
Pt	1.196	1.121	12.718	0.130	0.547	2072.899	1733
OP	0.1168	0.1076	1.432	-2.489	0.128	202.378	1733
adjOP	0.1169	0.1076	1.432	-2.489	0.128	202.508	1733
FL firm	0.938	1.000	1.000	0.000	0.241	1626.000	1733
PT firm	0.359	0.000	1.000	0.000	0.480	622.000	1733

2006							
	Mean	Median	Max	Min	S.D.	Sum	N
Pt	1.396	1.281	30.738	0.154	0.964	185.343	1745
OP	0.1062	0.1024	1.124	-0.567	0.093	2436.303	1745
adjOP	0.1063	0.1025	1.124	-0.567	0.093	185.4815	1745
FL firm	0.954	1.000	1.000	0.000	0.210	1615.000	1745
PT firm	0.341	0.000	1.000	0.000	0.474	632.000	1745

Panel B The absolute mean value of the difference between OP and adjOP

2000	2001	2002	2003	2004	2005	2006
0.00156	0.00121	0.00130	0.00120	0.00145	0.00086	0.00026

The difference = | adjOP-OP| / Sum of PTfirms

Table 2

The examination of incremental explanatory power of footnote information

	2000	2001	2002	2003	2004	2005	2006
Intercept	1.200***	1.065***	0.740***	0.946***	1.117***	0.702***	0.776***
	(3.56)	(6.573)	(6.101)	(6.083)	(2.761)	(3.32)	(1.86)
OP	0.821***	0.796***	0.706***	0.635***	2.157***	2.383***	6.162***
	(4.11)	(10.31)	(11.00)	(13.37)	(19.61)	(20.37)	(21.32)
D_{OP}*OP	−0.800***	−0.722***	−0.674***	−0.546***	−3.828***	−6.440***	−8.367***
	(−2.21)	(−5.65)	(−6.89)	(−5.51)	(−10.72)	(−30.96)	(−9.83)
D_{CL}*OP	0.263	0.139	0.183**	0.278***	0.172	0.196	0.177
	(1.10)	(1.53)	(2.42)	(4.18)	(1.08)	(1.51)	(0.59)
Adj.R^2	8.28%	16.35%	11.61%	21.41%	29.14%	40.19%	25.36%

Regression (2) $P_{it} = \alpha + \beta_0 OP_{it} + \beta_1 D_{OP} * OP_{it} + \beta_2 \sum INDUSTRY + \varepsilon_{it}$

Table 3 Vuong test for regressions

Regression (3)				Regression (4)					
Reported Earnings in Income Statement Rental Treatment				Adjusted Earnings via footnotes Purchase Treatment					
Intercept	OP	D_{OP}*OP	adjR^2	Intercept	adjOP	D_{OP}*adjOP	adjR^2	Z-statistics	
1.21	0.89	−0.77(a)	8.27%	1.21	0.85	−0.72(a)	8.21%	−0.96	1.59
1.07	0.83	−0.70	16.28%	1.07	0.83	−0.70	16.26%	0.60	1.45
0.75	0.75	−0.63	11.35%	0.75	0.75	−0.63	11.33%	0.90	1.63
0.95	0.70	−0.45	20.65%	0.95	0.70	−0.45	20.67%	−1.64*	0.10
1.12	2.20	−3.78	29.13%	1.12	2.20	−3.76	29.10%	1.10	1.73
0.71	2.45	−6.34	40.14%	0.71	2.45	−6.34	40.18%	−1.59	0.11
0.78(b)	6.23	−8.41	25.39%	0.77(b)	6.23	−8.41	25.41%	−0.96	1.59

Regression (3) $P_{it} = \alpha + \beta_0 OP_{it} + \beta_1 D_{OP} * OP_{it} + \beta_2 \sum INDUSTRY + \varepsilon_{it}$

Regression (4) $P_{it} = \alpha + \beta_0 adjOP_{it} + \beta_1 D_{adjOPit} * adjOP_{it} + \beta_2 \sum INDUSTRY_{it} + \varepsilon_{it}$

All interceptions and coefficient except (a) and (b) are significantly different to zero at the 1% level.

(a): The estimators are significantly different to zero at the 5% level.

(b): The estimators are significantly different to zero at the 10% level.

Table 4 Newly Issued Government Bonds Yield

	2006	2005	2004	2003	2002	2001	2000
Interest Rate for Finance Leases	3.41%	3.33%	3.84%	3.58%	4.44%	4.11%	4.40%
Newly Issued Government Bonds Yield	1.77%	1.32%	1.44%	0.70%	1.40%	1.27%	1.77%

M&A GOODWILL ACCOUNTING: "THOSE ARE MY PRINCIPLES, AND IF YOU DO NOT LIKE THEM..."

Humberto R Ribeiro[97]

Abstract – The accounting for business combinations has been a fertile source of controversies, to which the accounting for goodwill generated from Merger & Acquisitions (M&A) has made major contributions. Practitioners continue to suffer amidst industry lobbying versus regulators quarrels, and therefore one can argue that in M&A goodwill accounting: "Those are my principles, and if you do not like them ... … well, I have others", as Groucho Marx would say.

The replacement of amortisation of purchased goodwill and other intangible assets with definite life by impairment tests continues to raise concerns and therefore remains an accounting issue. Several authors, such as Hayn & Hughes (2006), questioned the superiority of impairment tests over amortisations, while Massoud & Raiborn (2003) suggested that managerial discretion in applying the goodwill impairment tests reduces the quality of reported earnings. Massoud & Raiborn (2003) also argued that SFAS No. 142 creates opportunities for earnings management, particularly in weak economic periods, where companies can undertake a "big bath", i.e., to recognise big impairment losses in a period when earnings are already negatively affected.

The early 2000's was characterised by an economic downturn, which has resulted in a recession in the USA in the period between March and November 2001, as defined by the National Bureau of Economic Research (NBER). The dot.com bubble collapse, the September 11 attacks, and the numerous accounting and corporate scandals that resulted in the Sarbanes-Oxley act, are some of the events that could arguably trigger

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the recognition of massive losses following impairment testing in fiscal years 2001 and 2002. Significant impairment losses under SFAS 142 could only occur from fiscal year 2002 onwards, as this standard was first adopted in fiscal year 2002 by most companies. Unsurprisingly, a big bath earnings management has occurred in 2002, as documented in the accounting and financial literature. There is however another fact that may have eased the happening of this "big bath": the change in the accounting regulation itself, which has diluted the negative impact on corporate earnings due to impairment charges. A big bath earnings management has occurred in 2002, as documented in the accounting and financial literature (see e.g. Jordan & Clark, 2004, 2005). There is however another fact that may have eased the happening of this "big bath": the change in the accounting regulation itself, which has diluted the negative impact on corporate earnings due to impairment charges. By the means of financial reporting disclosures analysis, this paper examines several aspects of SFAS 142 adoption, namely its significant impact on corporate earnings reported in the USA.

1. Introduction

Before FASB's changes in accounting for business combinations in 2001, the managerial accounting choice preference was clear in the mergers & acquisitions field (M&A): pooling of interests method, regardless its use being conditional to its qualification for a uniting of interests (see e.g. Aboody et al., 2000; Anderson & Louderback III, 1975; Ayers et al., 2000, 2002; Copeland & Wojdak, 1969; Gagnon, 1967; Lys & Vincent, 1995; Nathan, 1988). Management wants to maximize results, and purchase was not a suitable method, as it required goodwill recognition and amortisation, with negative consequences on earnings. Indeed, early studies found that managerial discretion was used in business combinations accounting in order meet

financial reporting objectives, namely to maximize reported earnings (Copeland & Wojdak, 1969).

As referred before, this appetence for pooling of interests was excessive. In fact, diverse anecdotal and empirical evidence suggested that companies could reshape M&A deals, incurring in extraordinary expenses, and even paying higher acquisition premiums, simply to meet AICPA's APB Opinion 16 pooling of interests criteria (see e.g. Aboody et al., 2000; Ayers et al., 2002; Davis, 1990; Hopkins et al., 2000; Linsmeier et al., 1998; Lys & Vincent, 1995; Robinson & Shane, 1990; Walter, 1999; Weber, 2004).[98]

Despite the apparent advantages of pooling over purchase method, several studies detected that pooling method resulted in mechanical effects on companies' financial statements and on the analysis of the financial statements (Jennings et al., 1996; Vincent, 1997), while others documented that the short-window announcement returns were lower for companies pooling than for companies using purchase method (Davis, 1990; Hong et al., 1978; Martinez-Jerez, 2001).

According to Fields et al. (2001), whether shareholders benefit from managerial discretion and whether the benefits outweighed the costs is not clear. However, according to Louis (2004), literature suggested that pooling deals are "bad investment decisions" because managers miss the focus on cash-flows, as they are more concerned with reporting increasing earnings, and also because they constraint the management's ability to sell acquired assets after the acquisition (Lys & Vincent, 1995; Robinson & Shane, 1990). Unsurprisingly, Martinez-Jerez (2003) found that stronger negative market reaction to pooling M&A deals is linked to acquirers that have poor corporate governance.

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[98] Conversely, Nathan (1988) did not find higher acquisition premiums for companies applying the pooling of interests method.

On the one hand, pooling seemed to underperform purchase method, but on the other, its defenders raised their arguments loud when the FASB proposed to eliminate pooling. Apparently, as theorized by Watts & Zimmerman (1990, 1978). Among pooling supporters were certainly managers more concerned with their contracts, than with the effective economic consequences of the forthcoming changes in M&A accounting. Watts & Zimmerman (1978) suggested that accounting choice may affect shareholders' wealth in case managers' compensation contracts are coupled to financial reporting performance. Indeed, while examining specific characteristics determining which business combinations accounting method is selected by the management, it was found that the percentage of insiders' ownership, and accounting-based compensation plans play an significant role (Dunne, 1990).

2. Literature *ex post* changes in M&A accounting

Following the effectiveness of the new business combinations accounting rules, the debate shifted from pooling elimination to the accounting treatment of purchased goodwill and other intangible assets. Amortisation versus impairment tests became the main issue. SFAS 142 replaced amortisation of acquired goodwill and other intangible assets with indefinite useful lives by impairment tests, keeping amortisation, under certain conditions, only for goodwill and intangible assets with finite useful lives. By doing so, the FASB added volatility to financial reporting. This fact was assumed in SFAS 142. When comparing the differences between SFAS 142 and APB Opinion 17, it is stated that (Financial Accounting Standards Board, 2001b: 5):

> "Because goodwill and some intangible assets will no longer be amortized, the reported amounts of goodwill and intangible assets (as well as total assets) will not decrease at the same time and in the same manner as under previous standards. There may be more volatility in reported income than under previous standards because impairment losses are likely to occur irregularly and in varying amounts."

Certainly there will be more volatility, one could add. Regardless the merits of impairment treatment, which screens continuously for the value of purchased goodwill and other intangible assets, whether such volatility increases the quality of financial reporting, and the usefulness of its users, is not a clear matter. Perhaps the best judgement will come with time, but in the meantime some literature started to examine this issue, providing some early findings. In terms of examples of literature about impairments under SFAS 142, Hayn & Hughes (2006) questioned the superiority of impairment tests over amortisations, while Massoud & Raiborn (2003) suggested that the managerial discretion in applying the goodwill impairment tests reduces the quality of reported earnings. Massoud & Raiborn (2003) argue that SFAS No. 142 creates opportunities for earnings management, particularly in weak economic periods, where companies can undertake a "big bath", i.e., to recognize big impairment losses in a period when earnings are already negatively affected.

The early 2000's was characterised by an economic downturn, which has been declared as a recession in the USA by the National Bureau of Economic Research (NBER) in the period between March and November 2001. The dot.com bubble collapse, the September 11 attacks, and the numerous accounting and corporate scandals that resulted in the Sarbanes-Oxley act, are some of the events that could arguably trigger the recognition of massive losses following impairment testing in fiscal years 2001 and 2002. Significant impairment losses under SFAS 142 could only occur from fiscal year 2002 onwards, as this standard was adopted mostly for fiscal year 2002. Unsurprisingly,

a big bath earnings management has occurred in 2002, as documented in the accounting and financial literature (see e.g. Jordan & Clark, 2004, 2005).

There is however another fact that may have eased the happening of this "big bath": the change in the accounting regulation itself, which has diluted the negative impact on corporate earnings due to impairment charges. This matter is to be studied in the following section.

Some literature cast doubts about the superiority of impairment tests over amortisations (vid. Hayn & Hughes, 2006), and other literature suggested that the managerial discretion in applying the goodwill impairment tests reduces the quality of reported earnings (e.g. Massoud and Raiborn, 2003).

3. Analysis of annual reports

This paper examines the effects of the effectiveness of the new business combinations accounting standards in financial reporting. Accordingly, this section examines whether the new business combinations accounting rules had any significant influence on the financial reporting of companies involved in M&A deals. This is arguably a relevant issue because changes in business combinations accounting have a previous record of controversy as they often lead to significant changes in financial reporting.

3.1. Methodology of analysis

The methodology used in this paper is based on the examination of financial reports from large US corporations. Through the information available on their annual reports, particularly in statements on accounting changes, and in the financial statements notes, the effects on financial reporting due to the new business combinations accounting rules are examined. The financial reporting analysis also allowed estimating the impact of the new accounting standards on corporate results.

The analysis of the effects on financial reporting is not intended to formally test any hypothesis. The analysis has a simple proposition which is to verify whether the changes in business combinations accounting resulted in significant impacts on the financial reporting. This statement could be regarded as a testable hypothesis. However, it is not the purpose of this paper, as this proposition will only be evaluated by the means of qualitative and quantitative analysis of financial reporting data. A part of the quantitative analysis will be cross-sectional.

3.2. Data sources

The sample for analysis, shown in the next section, is the result of the compilation of data collected from financial reports of companies that completed M&A deals in recent years, and that have reported business combinations accounting changes following the adoption of the new FASB's standards. The companies composing the S&P 500 index, effective after the close of 31 December 2004, were the centrepiece of the study, and therefore data has been collected from these companies' financial reports. S&P 500 index includes firms with large capitalization values, listed on both NYSE and NASDAQ. The fact these companies were listed enhanced the odds of involvement in M&A deals, as exchange markets ease the concretization of M&A deals.

In the USA, the Form 10-K is an annual filing which provides a comprehensive overview of the company for the period of a year. 10-K forms are often included in annual reports, although they are formally prepared to comply with the SEC, and the Securities Exchange Act requirements; while annual reports are primarily focused in investors. Since companies have to report material changes as a result of the adoption of new accounting standards, it is therefore possible to collect data directly from annual reports and 10-K forms.[99] The data was collected primarily from the 10-K forms. The SEC Filings and Forms (EDGAR), and the EDGAR Online Pro database, were the main data sources used.[100] Data from annual reports was also examined in order to collect additional information about some companies. The data sources for annual reports were The Annual Reports Service, from Barron's, and several S&P 500 companies' websites.

3.3. Data collection

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[99] In this paper, "annual report", "Form 10-K", and "annual filling" are interchangeably used.
[100] In some cases the Form 10-K was not available and the Form 10-K405 was examined instead. Like the Form 10-K, the Form 10-K405 is also a SEC filing, but indicates a file violation resulting from the lack of disclosure of insider trading activities from the reporting company. The identification of the form as 10-K405, versus ordinary 10-K, was made by a company's officer or director, and not by SEC officials. Unsurprisingly, it resulted in inconsistent designations by companies. Accordingly, the SEC's Branch of Public Reference discontinued the requirement to designate a filing as a Form 10-K405, effective after 2002, and 10-K405 forms were no longer accepted by the SEC filings system.

Since both SFAS 141 and SFAS 142 became effective during 2001, annual reports and 10-K forms have been examined since fiscal year 2001. Most companies have fiscal years ending in 31 December, or by the end of the year, and therefore the changes in business combinations accounting occurred in 2001 were likely to be disclosed immediately, i.e., from 2002's filings onwards. However, as discussed later in this section, filings up to year 2004 could still refer to 2001's changes in business combinations accounting.

3.3.1. New business combinations accounting standards disclosures

Both new business combinations accounting standards contain detailed provisions concerning disclosures on business combinations and on accounting changes, as shown in paragraphs 51 to 58 of SFAS 141 (Financial Accounting Standards Board, 2001a), and in paragraphs 44 to 47 of SFAS 142 (Financial Accounting Standards Board, 2001b). They are mostly to be presented in the notes to the financial statements. SFAS 142 also provides further guidance on disclosures in its Appendix C, by the means of illustrations. Much of the impacts reported by companies were based in such guidance.

An example of financial reporting disclosure on business combinations' new accounting follows for 3M Company. For the year ended in 31 December 2001, 3M Company, registered as Minnesota Mining and Manufacturing Company, filed the Form 10-K405 in 11 March 2002, as required by the Securities Exchange Act of 1934. By standard, every reporting company devoted a section or specific paragraphs announcing the enforcement of the new business combinations pronouncements. In the first year of SFAS 141 adoption, 3M Company reported (Item 7, 2002):

> "In June 2001, the Financial Accounting Standards Board issued SFAS No. 141, *Business Combinations*. SFAS No. 141 applies to all business combinations with a closing date after June 30, 2001. The most significant

> changes made by SFAS No. 141 are: 1) requiring that the purchase
> method of accounting be used for all business combinations initiated after
> June 30, 2001, and 2) establishing specific criteria for the recognition of
> intangible assets separately from goodwill."

This description resembles a commonplace, as it illustrates the way companies reported

the generic changes in business combinations accounting. Overall, companies reported

the existence of the new business combinations standard, SFAS 141, but no effects

were to be disclosed, as pooling of interest was simply no longer an option. The

adoption of SFAS 141 was therefore absolutely neutral from a financial point of view.

When referring to both SFAS 141 and SFAS 142 it is stated that (Notes to Consolidated

Financial Statements, 3M Company, 2002):

> "These standards permit only prospective application of the new
> accounting; accordingly, adoption of these standards will not affect
> previously reported 3M financial information."

Since pooling of interests had been discontinued, no prospective application was

therefore possible for SAFS 141. Companies simply informed whether they used pooling

method before its elimination. However, a very different scenario was set for SFAS 142.

Like for SFAS 141, companies produced a similar standard description for SFAS 142

(Item 7, 3M Company, 2002):

> "The Financial Accounting Standards Board recently issued Statement
> No. 142, *Goodwill and Other Intangible Assets*, which will be adopted by
> the company effective January 1, 2002. Goodwill and intangible assets
> acquired after June 30, 2001, are subject immediately to the non-
> amortization and amortization provisions of this statement, while existing
> goodwill and other indefinite-lived assets will no longer be amortized
> beginning January 1, 2002. Goodwill will be subject to an impairment test
> at least annually".[101]

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[101] According to SFAS 142 (paragraph 43, 2001a), goodwill is the excess of cost of an acquired entity over the net
amounts assigned to assets acquired and liabilities assumed in a business combination.

However, a more detailed examination on the accounting changes resulting from SFAS 142 adoption is provided in the notes, as shown in the two paragraphs quoted below (Notes to Consolidated Financial Statements, 3M Company, 2002):

> "SFAS No. 142 primarily addresses the accounting for acquired goodwill and intangible assets (i.e., the post-acquisition accounting). The provisions of SFAS No. 142 will be effective for fiscal years beginning after December 15, 2001. The most significant changes made by SFAS No. 142 are: 1) goodwill and indefinite-lived intangible assets will no longer be amortized; 2) goodwill and indefinite-lived intangible assets will be tested for impairment at least annually (…); and 3) the amortization period of intangible assets with finite lives will no longer be limited to 40 years."

Indeed, further examination of 3M's Form 10-K405 reveals that the focus of business combinations accounting changes is on SFAS 142, as it is clearly assumed that:

> "The principal effect of SFAS No. 142 will be the elimination of goodwill amortization. Amortization of goodwill and indefinite-lived intangible assets in 2001 was $67 million (net income impact of $51 million, or 12 cents per diluted share)".

The paragraph above identifies and illustrates the impact subject to analysis in this section. Since the effects from SFAS 142's adoption are to be measured by the companies, no computation from the researcher is needed. This is an advantage for the researcher, as the risk of a biased data handling is avoided. Any possible computation flaws are therefore responsibility of the reporting companies.

Like its peers, 3M Company was amortising goodwill in wide periods, including the maximum amortisation ceiling. As referred to by 3M Company in its annual report notes, in the first quarter of 2001 three notable business combinations were completed using purchase method. The purchased intangible assets, including goodwill, were being amortised on a straight-line basis over the periods benefited, ranging from 4 to 40 years

(Notes to Consolidated Financial Statements, 3M Company, 2002). As referred in the last quoted paragraph, if SFAS 142 would be adopted in 2001 the relief in losses as a consequence of the nonamortisation of purchased goodwill would be of $51 million alone for 3M Company. This would result in a significant increase of earnings per share in 2001: from $3.58 to $3.70, a net impact of 12 cents. Although 12 cents in $3.58 stand for *only* a 3.35% increase, evidence collected in this research, and to be shown later in this section, suggests the existence of significant higher impacts for most companies in the scope of the adoption of the new business combinations accounting standards.

The positive impact of the elimination of amortisation of acquired goodwill and other intangible assets on earnings was certainly minimized by the recognition of impairment losses, also under SFAS 142.[102] At least for 126 and 40 companies in fiscal years 2002 and 2003, respectively, which have disclosed some type of impaired purchased goodwill and other intangible assets than goodwill, following SFAS 142 adoption. In the universe of S&P 500 index companies, these impairing companies figures represent only around 25% and 8% in total, for 2002 and 2003, respectively.

Taking once again 3M Company as an example of accounting treatment, the impairment tests procedure under SFAS 142 was described in the following way (Note 1, 3M Company, 2003):

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[102] Under SFAS 141, business combinations companies are required to estimate the fair value of acquired intangible assets in the following manner: first, intangible assets must be categorized by type, such as customer lists, trademarks, patents, software, intellectual property, etc; second, intangible assets with an identifiable remaining useful life must be separated from those with an indefinite useful life. The latter is then classified as goodwill and must be subject to a two-step test for impairment under FASB 142, which companies were required to adopt by January 1, 2002. However, if goodwill and other intangible assets acquired in a transaction for which the acquisition date is after June 30, 2001, but before the date of fully adoption of SFAS 142, these assets are to be reviewed for impairment in accordance with APB Opinion 17, or with SFAS 121, as appropriate, until the date that SAFS 142 is applied in its entirety (Paragraph 51, Financial Accounting Standards Board, 2001b).

Under SFAS 142, the two steps of the goodwill impairment test are (Paragraphs 19-22, Financial Accounting Standards Board, 2001b): first, identifying potential impairments by comparing the fair value of a reporting unit to its carrying amount, including goodwill. Goodwill is not considered impaired as long as the fair value of the unit is greater than its carrying value. The second step is only required if an impairment to goodwill is identified in step one; second, comparing the implied fair market value of goodwill to its carrying amount. If the carrying amount of goodwill exceeds its implied fair market value, an impairment loss is recognized. That loss is equal to the carrying amount of goodwill that is in excess of its implied fair market value, and it must be presented as a separate line item on financial statements.

"Beginning January 1, 2002, goodwill will be tested for impairment annually, and will be tested for impairment between annual tests if an event occurs or circumstances change that would indicate the carrying amount may be impaired. Impairment testing for goodwill is done at a reporting unit level. Reporting units are one level below the business segment level, but can be combined when reporting units within the same segment have similar economic characteristics. 3M, at year-end 2002, had 20 reporting units under the criteria set forth by SFAS No. 142. The vast majority of goodwill relates to and is assigned directly to a specific reporting unit. An impairment loss would generally be recognized when the carrying amount of the reporting unit's net assets exceeds the estimated fair value of the reporting unit. The estimated fair value of a reporting unit is determined using earnings for the reporting unit multiplied by a price/earnings ratio for comparable industry groups, or by using a discounted cash flow analysis."

Although the accounting procedure for impairment testing seemed to be reasonably well described, and despite the multiple business combinations involving 3M Company in the preceding years, including 9 deals in 2002, no impairment charges were recorded for purchased goodwill in 2002 (Note 1, 3M Company, 2003):

"The company completed its assessment of any potential impairment upon adoption of this standard and upon its annual assessment and determined that no impairments existed."

The absence of impairment charges was not an exclusive for purchased goodwill, as it was also extended for other intangible assets with indefinite life, such as patents, tradenames, and others, acquired from an independent party.[103] In neither of the fiscal

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[103] Bellow is shown the treatment given by 3M Company to purchased intangible assets with an indefinite life (Note 1, 3M Company, 2003):

"Effective January 1, 2002, with the adoption of SFAS No. 142, intangible assets with an indefinite life, namely certain tradenames, are not amortized. Intangible assets with a definite life are amortized on a straight-line basis with estimated useful lives ranging from 2 to 17 years. Indefinite-lived intangible assets will be tested for impairment annually, and will be tested for impairment between annual tests if an event occurs or circumstances change that would indicate that the carrying amount may be impaired. Intangible assets with a definite life are tested for impairment whenever events or circumstances indicate that a carrying amount of an asset (asset group) may not be recoverable. An impairment loss would be recognized when the carrying amount of an asset exceeds the estimated undiscounted cash flows used in determining the fair value of the asset. The amount of the impairment loss to be recorded is calculated by the excess of the assets carrying value over its fair value. Fair value is generally determined using a discounted cash flow analysis. Costs related to internally developed intangible assets are expensed as incurred.".

years examined, from 2001 to 2004, had 3M Company recorded any impairment loss related to SFAS 142's adoption.

For the present paper it would be more relevant to be aware of impairment charges in the first year of adoption of new business combinations accounting standards. As suggested before, overall, despite being considered a "big bath year", impairment losses recorded in 2002 were not as significant as one could expect. There are many possible justifications for this fact, but perhaps two simple reasons may explain reasonably why this happened. First, perhaps the most important reason for the absence of impairment charges was the lack of in-depth guidance regarding the application of impairment tests. It was also an upcoming intense period of accounting regulation changes.[104] Second, conceivably some companies did not have much time to carefully proceed with impairment tests, in order to evaluate any possible impairment losses under SFAS 142. In the case of 3M Company, it was implicitly admitted that no extensive impairment tests were performed in a first stage of SFAS 142's adoption (Notes, 3M Company, 2002):

> "A preliminary review indicated that no impairment existed at December 31, 2001".

However, this discussion is not considered to be relevant to the present research, and therefore only the impact on earnings from the non-amortisation of purchased goodwill and other intangible assets with indefinite life was examined in-depth.

3.3.2. Adoption and disclosure timing of SFAS 142 impacts

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[104] The accounting changes in early 2000's were not an exclusive from business combinations, as other FASB pronouncements became effective in the same period, such as: SFAS 140, *Accounting for Transfers and Servicing of Financial Assets and Extinguishments of Liabilities a replacement of FASB Statement 125*; SFAS 143, *Accounting for Asset Retirement Obligations*; SFAS 144, *Accounting for the Impairment or Disposal of Long-Lived Assets*, or SFAS 145, *Rescission of FASB Statements No. 4, 44, and 64, Amendment of FASB Statement No. 13, and Technical Corrections*. More accounting standards would be enforced in the upcoming years. Following several scandals that led to major corporate failures, the US Congress passed the Sarbanes-Oxley Act (SOX) of 2002, enacted in 30 July, in order to improve investors' protection from the possibility of fraudulent accounting activities by corporations.

SFAS 142 is the most important of the new business combinations accounting standards for the present research, as the information to be collected from the annual reports is disclosed under its provisions. It is therefore critical to understand the process of disclosure and adoption of SFAS 142 by the companies. A brief chronology follows. After FASB issued the new business combinations accounting standards in June 2001, companies become likely to mention that fact immediately after in their annual reports. However, no impacts had to be disclosed immediately, as companies only needed to compulsorily adopt SFAS 142 provisions from fiscal year 2002 onwards.

Indeed, as SFAS 142 provisions were required to be applied starting with fiscal years beginning after 15 December 2001 (Paragraph 48, Financial Accounting Standards Board, 2001a), and as fiscal year ending in 31 December is the commonest financial reporting period, most S&P 500 companies adopted SFAS 142 immediately in 2002. However, companies with a fiscal year beginning after 31 December 2001 could defer adoption of SFAS 142 for 2003's fiscal year.[105]

Another justification for the immediate adoption of SFAS 142 in 2002 by majority of companies, was that early application was permitted for entities with fiscal years beginning after March 15, 2001, provided that the first interim financial statements would have not been previously issued (Paragraph 48, Financial Accounting Standards Board, 2001a). Finally, it is important to recall that regardless the date of adoption, goodwill and certain intangible assets with an indefinite life acquired after 30 June 2001 would not be amortised, but tested for impairment. This means that in some cases SFAS 142 could have to be implemented in mid-fiscal year. An interesting application example is provided in SFAS 142 (Paragraph 50, Financial Accounting Standards Board, 2001b):

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[105] It is important to note that when a fiscal year does not coincide with the calendar year, then the calendar year in which the fiscal year ends is used in the shorthand. For example, if a company's fiscal year begins in 1 February 2001, and therefore ends in 31 January 2002, it would be then considered as 2002's fiscal year. This is the case of Wal-Mart Stores Inc., as shown below.

> "an entity with a December 31, 2001 fiscal year-end would be required to initially apply the provisions of this Statement on January 1, 2002; if that entity completed a business combination on October 15, 2001, that gave rise to goodwill, it would not amortize the goodwill acquired in that business combination even though it would continue to amortize until January 1, 2002, goodwill that arose from any business combination completed before July 1, 2001. Intangible assets other than goodwill acquired in a business combination or other transaction for which the date of acquisition is after June 30, 2001, shall be amortized or not amortized in accordance with paragraphs 11–14 and 16 of this Statement."

In terms of disclosure under SFAS 142 provisions, most companies reported impacts on results for the two fiscal years preceding SFAS 142 adoption. It is important to note that companies did not measure the impact on results as a result of SFAS 142 adoption. For the fiscal year of adoption, companies reported the *virtual* impact on previously reported results instead, by the means of adjusted results. The majority of the companies adopted SFAS 142 in fiscal year 2002, and reported accordingly impacts for fiscal years 2000 and 2001.

A reduced number of companies did not report SFAS 142 effects for 2000 and 2001, but disclosed impacts only for the following fiscal years of 2001 and 2002. This was the case of Wal-Mart Stores Inc. Wal-Mart's fiscal year-end is 31 January.[106] According to the Form 10-K filed by Wal-Mart for the fiscal year ended in 31 January 2002 (2002: 23):

> "We will apply the new rules on accounting for goodwill and other intangible assets beginning in the first quarter of fiscal 2003. Application of the nonamortization provisions of the Statement is expected to result in an increase in net income of approximately $250 million for fiscal 2002. Prior to the completion of the second quarter of fiscal 2003, we will

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[106] The fiscal years information was collected from EDGAR Online Pro database during the period 2004-2005, and do not correspond necessarily to the fiscal years exhibited in the annual reports that were examined in this research. For example, the fiscal year for NVIDIA corp. ended in 25 January. This closing date corresponds to the year 2004. However, the fiscal years in the period of analysis were slightly different, as ending dates were 26, 27, and 28 January, for 2003, 2002, and 2001, respectively. These rolling dates are the consequence of the adoption of a fiscal year that ends always on the same day of the week. In this case, some fiscal years will have 52 weeks, while a few others will have 53. Using Cisco Systems to illustrate the adoption of this particular type of fiscal year, the company announced that commencing with fiscal year 1997, the company's fiscal year would be the 52- or 53-week period ending on the last July's Saturday (Cisco Systems, 1998). The fiscal 1997 was a 52-week fiscal year which ended in 26 July 1997. The fiscal 1998 was also a 52-week fiscal year, and therefore ended in 25 July 1998. The fiscal 1999 was however a 53-week fiscal year, in order to match with an ending in the last Saturday of July which, in 1999, corresponded to 31 July.

complete a transitional impairment review for goodwill and indefinite lived intangible assets as of the date of adoption. Subsequently, we will perform similar impairment reviews on an annual basis. Management does not believe that the adoption of the impairment review provisions of the statement will have a material effect on the earnings and financial position of the Company."

It is interesting to observe that not only Wal-Mart supposedly delayed any effective decision on impairment charges under SFAS 142 to 2003's fiscal year, avoiding the so-called "big bath earnings management" occurred in 2002, as it has also reported the impact on results for the first time only in 2002. This was due to the fact that, despite some companies were due to adopt SFAS 142 immediately in 2002, other companies were required to adopt SFAS 142 only in 2003. Indeed, when Wal-Mart filed the Form 10-K for the year ended in January 2002, the new business combinations accounting rules were already enforced, but SFAS 142 adoption was not yet effective, as only for the fiscal year ended in January 2003 was Wal-Mart required to report SFAS 142 effects.

Apart from companies that had to adopt SFAS 142 in fiscal years 2002 and 2003, there was also the case of companies that could be entitled to adopt the new accounting standard earlier. The earliest adoption possible of SFAS 142 was for companies with a fiscal year beginning in 15 March 2001, i.e., ending in 14 March 2002. However, as stated in SFAS 142 (Paragraph 48, Financial Accounting Standards Board, 2001b):

"In all cases, the provisions of this Statement shall be initially applied at the beginning of a fiscal year. Retroactive application is not permitted.".

Apart some exceptions, not applicable in this case, this provision means that Wal-Mart could only adopt SFAS 142 in its fiscal year beginning in 1 February 2002. It cannot be then argued that Wal-Mart deferred SFAS 142 adoption. As Wal-Mart could only adopt

SFAS 142 in fiscal year 2003, is has therefore disclosed information on impacts for the fiscal years ending in 2001 and 2002.

For a better understanding of this reasoning, detailed information on SFAS 142 timings of adoption and disclosure follows. Companies with fiscal years beginning between 15 March 2001 and 14 December 2001 could adopt SFAS 142 earlier, provided that the first interim financial statements would have not been previously issued. Since SFAS 142 was to be adopted unrestrictedly only from the fiscal year beginning in 15 December 2001, early adoption can be considered as optional.

In terms of year of adoption, all companies had to adopt SFAS 142 in fiscal years 2002 or 2003. Companies with fiscal years ending from 14 March 2002 to 31 December 2002, could have adopted SFAS 142 for 2002's fiscal year. Most of these companies disclosed impacts on precedent reported results for the two preceding fiscal years, i.e., 2000 and 2001. However, some disclosed impacts only for the preceding fiscal year of 2001.

Companies with fiscal years beginning from 2 January 2002 to 14 December 2002, had to adopt SFAS 142, as any deferral would constitute a violation to SFAS 142 implementation provisions. It can be then concluded that all companies had to adopt SFAS 142 at least during fiscal year 2003, in case they did not adopted it earlier. Most of companies that adopted SFAS 142 in fiscal year 2003 have disclosed impacts on reported results for the two preceding fiscal years, i.e., 2001 and 2002. However, some companies disclosed impacts only for the preceding fiscal year of 2002.

Finally, all companies with fiscal years ending after 13 December 2003 were due to adopted already SFAS 142, as its latest adoption was required for all companies with fiscal years beginning after 14 December 2002. If a company would adopt SFAS 142

from the fiscal year ending in 14 December 2003 onwards, it would be then violating SFAS 142's adoption provisions.

In resume, companies with fiscal years beginning between 2 January 2002 and 14 March 2002 could only adopt SFAS 142 in fiscal year 2003, while companies with fiscal years starting between 15 December 2001 and 1 January 2002 had to adopt SFAS 142 in fiscal year 2002. Companies with fiscal years beginning between 15 March 2001 and 14 December 2001, and between 15 March 2002 and 14 December 2002, could have adopted SFAS 142 in 2002 or 2003, respectively.

It is therefore possible to make the following generalization: during the period of adoption of SFAS 142, companies with fiscal years beginning between 2 January and 14 March had to adopt SFAS 142 in fiscal year 2003, while companies with fiscal years starting between 15 December and 1 January had to adopt SFAS 142 in fiscal year 2002. Companies with fiscal years beginning between 15 March and 14 December could adopt SFAS 142 in 2002, provided that the first interim financial statements would have not been previously issued, or a fiscal year later, in 2003. In case the company had to adopt SFAS 142 during mid-fiscal year, as required by paragraph 50 of SFAS 142, this generalization does not apply.

3.3.3. Impact measurement

Companies reporting under SFAS 142 have disclosed diverse information about the impacts from the nonamortisation of acquired goodwill and indefinite-lived intangible assets. They have also included supplemental statements of income with information about SFAS 142 impacts on both reported and adjusted bases. The measurement of SFAS 142 impacts on previously reported results, included information about the amount of acquired goodwill and indefinite-lived intangible assets not any longer subject to

amortisation, and pro-forma figures for net income (or net losses), had the new accounting standard been in effect for previous fiscal years.

One of the most important figures that companies had to disclose under SFAS 142 was the impact on EPS. As a major indicator of a company's profitability, the EPS assumes particular importance in the USA where it is highly regarded. In fact, despite the immense variety of indicators used in financial analysis, EPS is still considered a leading indicator for evaluating share prices.

The FASB requires companies' financial statements to report EPS for each of the major categories of the income statement: continuing operations, discontinued operations, extraordinary items, and net income (Financial Accounting Standards Board, 1997). In order to ensure the homogeneity of the sample, only comprehensive net income figures were used.

SFAS 128, *Earnings per Share*, specifies the computation, presentation, and disclosure requirements for EPS in the USA. Under SFAS 128, two forms of EPS are required to be reported: basic and diluted. This requirement was also followed in SFAS 142, as shown in its Appendix C (paragraph C5, Financial Accounting Standards Board, 2001b).

Basic EPS is computed by dividing income available to common stockholders, in the numerator, by the weighted-average number of common shares outstanding, in the denominator (paragraph 8, Financial Accounting Standards Board, 1997).

The diluted EPS expands on basic EPS by including the effect of all dilutive potential outstanding common shares. Basic and diluted EPS are therefore similarly computed. However, in diluted EPS computation, the denominator is increased in order to include the number of additional common shares that would have been outstanding if the dilutive

potential common shares had been issued (paragraph 11, Financial Accounting Standards Board, 1997).

Diluted EPS is a more consistent indicator than basic EPS. Additionally, while some companies did not report SFAS 142 impact on basic EPS, they all however reported the effect on diluted EPS. Therefore, diluted EPS has been taken in this research as a proxy for measuring the impact of SFAS 142 on reported earnings.

3.3.4. Resume of data collection procedure

As SEC filings were the main data source, a note on its timing follows. In terms of 10-K and 10-K405 forms, considering they need to be filed up to 3 months after the fiscal year has ended, companies with fiscal years ending from 14 March 2002 to 30 September 2002 were due to have their filings prepared in 2002. As for companies with fiscal years ending between 31 October 2002 and 30 September 2003, the 10-K forms had to be filed until the end of 2003. Finally, companies with fiscal years ending after 31 October 2003 were due to file the 10-K forms only in 2004.

In order to ensure that all companies reporting SFAS 142 effects could be identified, the SEC filings from 2001 to 2004 were examined. Although companies did not adopt SFAS 142 in fiscal year 2001, the filings were examined in order to analyse earlier disclosures related to the new business combinations standards. This examination also intended to capture any possible particular or abnormal disclosure. The 2004 filings were also examined, not only to collect information about companies that had to adopt SFAS 142 until the fiscal year ending in 13 December 2003, which had to file the Form 10-K until in the first quarter of 2004; but also to ensure that companies potentially delayed in reporting on new business combinations accounting could still be included in the sample.

This additional data verification has revealed to be important as some early disclosures on SFAS 142 would be later revised by a few reporting companies. Whereas the reported information of a more recent Form 10-K, or annual report, conflicted with similar information reported in previous years, the newest information has been the one selected for the final sample. Therefore, for most companies, the search for SFAS 142 effects started with the examination of 2004's filings, even knowing in advance that almost all companies reported such effects in 2002 and 2003 filings.

Finally, the period of 2001-2004 was fertile in financial reporting restatements. Accordingly, some companies filed later amendments, using the Form 10-K/A. In some cases, a half dozen of amendments were filed by a single company during the period 2001-2004. It cannot be assured that every amendment filed has been verified. Additionally, despite similarities in financial reporting, some companies reported SFAS 142 effects in slightly different ways, forcing in a few occasions to rely on personal judgement in order to harmonize the information made available in annual reports by all companies.[107]

3.4. SFAS 142 impacts sample

As discussed before, the sample for analysis is the result of the congregation of data collected from financial reports of companies that completed M&A deals in recent years, and that have reported business combinations accounting changes following the adoption of the new FASB's standards. The annual filings from 2001 to 2004 of the 500 companies that composed the S&P 500 index in 2004 were examined, as this index is considered to be an excellent proxy for the corporate environment were a significant part

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[107] Any inaccuracy from the data collecting process that may be reflected in the annual reports sample is exclusive responsibility of the author.

of the M&A activity is placed. The use of S&P 500 index also ensures a good coverage for the most significant industries in the USA.

[*Please insert Figure 1 here*]

As shown in Fig. 1, the corporate sectors included in S&P 500 index are quite diversified, being most industries well-weighted. By the end of 2004, financials and the IT industry represented about one-third of S&P 500 companies. Together with consumer discretionary companies, IT and financials accounted for half of the companies in the index.

Following the examination of the 500 S&P's companies, it was been found that more than half of the companies disclosed impacts in the scope of the adoption of SFAS 142. More precisely, at least 257 companies measured and disclosed impacts on results as if SFAS 142 would have been previously adopted. In addition, another 219 companies referred adoption of SFAS 142, but did not provide any measurement and details of the impact. Some other 4 companies referred the effectiveness of SFAS 142, but did not clarify whether they were entitled for adoption. In resume, only 24 companies did not assume clearly SFAS 142 adoption.

The majority of the companies disclosed impacts for 2000 and 2001, regardless different fiscal years' endings. However, as referred before, a company with a fiscal year ending between 14 March and 13 December could have adopted SFAS 142 only in 2003. In case of adoption in fiscal year 2003, it was then natural to report impacts for 2001 and 2002.[108] As a result of this myriad of possibilities, the sample comprised 257 companies with the following reporting status:

i) 222 companies disclosed information for both fiscal years 2000 and 2001;

ii) 10 companies disclosed information only for fiscal year 2001;

iii) 24 companies disclosed information for both 2001 and 2002; and

iv) 1 company disclosed information only for fiscal year 2002.[109]

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[108] However, a few companies disclosing adoption of SFAS 142 in 2003 reported impacts for 2000 and 2001.
[109] A small group of retailers, including Kohl's Corporation, The May Department Stores Company, and The Kroger Co., adopted SFAS 142 on the fiscal year starting in 3 February 2002. According to them, this adoption was made in fiscal year 2002, and therefore the impacts from SFAS 142 were disclosed for 2000 and 2001. According to the theoretical framework presented in this research, a 2003 fiscal year-end reporting corresponds to fiscal year 2003, not 2002. This framework matches with the views of the remaining companies in the sample. Therefore, had these retailers following the standard views on fiscal year definition, and they would have disclosed impacts for years 2001 and 2002, as if they had adopted SFAS 142 in fiscal year 2003. As this issue is irrelevant for the constitution of the final sample used in this

It was already justified why companies reported SFAS 142 effects in different years. Regardless the year of reporting, what matters for the present research is the homogenised impact on the two fiscal years preceding SFAS 142 adoption. As the large majority of the companies examined, 222 in 257, reported income figures for 2000 and 2001 together with adjusted pro-forma information as if the accounting change had been already in effect, these two fiscal years were taken as a reference for the final sample. This assumption means that data in the final sample referred to 2001 is a proxy for the impacts on the fiscal year preceding SFAS 142 adoption, regardless the effective year of adoption by the companies. Similarly, sample data for 2000 is a proxy for the impacts on the second fiscal year preceding SFAS 142 adoption.

In order to homogenise the reporting periods in the sample, the data from the company presenting information only to 2002 (iv) was considered as being referred to 2001; while data for the 24 companies that reported impacts for fiscal years 2001 and 2002 (iii), has been considered as for years 2000 and 2001, respectively. As a result of this standardization, it is implicit that all companies adopted SFAS 142 in fiscal year 2002, despite this not being true for 25 of the 257 companies included in the final sample.

The final sample is therefore composed by 257 companies, contributing with 503 observations, 246 for 2000, and 257 for 2001. The weight by industry for the 257 companies included in the sample is shown in Fig. 2.

[*Please insert Figure 2 here*]

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research, it was decided to keep these companies in the group of companies reporting impacts for 2000 and 2001.

Interestingly, the majority of companies impacted by SFAS 142 were from IT industry, with 18.8% of the total sample. Financials ranked third, and together with IT and consumer discretionary they sum for around half of the companies in the sample.

3.5. Basic descriptive statistics and analysis

In terms of global figures for the sample companies, in 2000, the 246 companies reported an average net income of 897.4 millions in dollars value. In average, had SFAS 142 been made effective in 2000, the same companies would report 968.9 millions of net income, a 7.9% increase. In terms of total values for 2000, the 246 companies reported $220.7 thousand millions of net income and would report an adjusted $238.3 thousand millions had SFAS 142 been adopted, as net amortisation of purchased goodwill totalling $17.1 thousand millions, and amortisation of other purchased intangible assets than goodwill of $474 millions, would be discontinued, and consequently added back to reported income. Had SFAS 142 been adopted in fiscal year 2000 and the net income of the 246 companies would be therefore increased in $17.5 thousand millions.

In a similar analysis for 2001, the 257 companies reported an average net income of $406.6 millions, a 54.6% decrease when compared to 2000. As discussed earlier in this paper, the economic climate changed in the beginning of the 2000's, so this sharp decrease in results can be considered as normal. Had SFAS 142 been made effective in 2001, and the 257 companies would report $542.3 millions of net income in average, a 33.3% increase. In terms of global figures for 2001, the 257 companies reported $103.7 thousand millions of net income, and disclosed a pro-forma net income of $138.3 thousand millions, as net acquired goodwill amortisation of $32.9 thousand millions, and amortisation of $1.65 thousand millions related to other purchased intangible assets than goodwill, such as indefinite-lived tradenames, or workforce intangible, would be added back. Therefore, had SFAS 142 been adopted in fiscal year 2001, and the net income of

the 257 companies would be increased by one-third. In face of a period of sharply falling earnings, the immediate adoption in 2001 of SFAS 142 would be certainly welcomed by companies which were amortising purchased goodwill and other intangible assets. If no impairment losses would be recorded, the adoption of SFAS 142, by the means of nonamortisation of purchased goodwill and other intangible assets, would represent a *bonus* of $34.6 thousand millions in earnings for the 257 companies examined.

3.6. Impact on diluted EPS

Since companies had to disclose the *virtual* impact on EPS for the immediate fiscal years before SFAS 142 adoption, and being EPS a powerful and harmonized indicator, an in-depth analysis focused on diluted EPS follows.

As disclosed pro-forma by 246 companies in 2000, the adjusted diluted net income per share was in average 20.7% superior to the diluted net income as reported.[110] Had SFAS 142 been adopted in fiscal year 2001, and the reported net income of the 257 companies examined would increase 29.6% in average.

Some companies reported a zero impact on reported EPS. More precisely, 7 companies in 2000, and 3 in 2001. Had these companies being excluded from the sample, and the average impact of SFAS 142 adoption on diluted EPS would be of 21.3% and 30%, for 2000 and 2001, respectively. The average impacts on diluted EPS are very much meaningful by all means.

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[110] The growth ratio for diluted EPS is expressed as a percentage, and shows the relative growth of diluted EPS over the last reporting period. In some cases, the ratio had to be computed using negative values. In order to allow proper computations of growth using negative EPS values, the following formula with absolute values in the denominator has been employed:

$$\frac{current\ year's\ EPS - previous\ year's\ EPS}{\left|previous\ year's\ EPS\right|} \times 100$$

The diluted EPS sample median was 7.18% for 2000, and 9.52% for 2001. The high discrepancy of the median versus average, 7.18% vs. 20.7%, and 9.52% vs. 29.6%, suggests the existence of outliers biasing the sample average. The impact of companies reporting zero impact is not significant, as revealed by the minor differences between the average percentages for the whole sample versus sample excluded from zero values. Therefore, outliers are not minimum, but maximum values.

Indeed, a substantial number of companies disclosed impressive impacts on diluted EPS, had SFAS 142 been adopted. The maximum impact on diluted EPS reported in 2000 was 4.85 times, or 385%. A total of 10 companies disclosed adjusted diluted EPS with increases of 100% or more. For 5 companies the impact on reported diluted EPS was at least 200%. The sample standard deviation was 0.47.

The impact of SFAS 142 on 2001's earnings would be even more expressive. The maximum impact disclosed was 7.6(6) times the reported diluted EPS, an increase of 666%. 12 companies reported impacts of 100% or more, 6 reported increases of at least 200%, and similarly, 4 reported 400%, and 3, 500% or more. Unsurprisingly, the dispersion of values was higher than in 2000, and therefore the standard deviation was also higher, 0.77.

A final indication about the significant weight of the outliers follows. For 2000, 48 companies reported differences between adjusted diluted EPS and reported diluted EPS superior to the average of the 246 observations: 20.7%. In 2001, the impact for 51 companies was superior to the average impact for the 257 sampled companies: 29.6%.

4. Cross-sectional analysis

Since the analysis from the survey suggested the existence of significant effects of the new business combinations accounting standards on IT industry, and as the sample for

annual reports comprises the same 10 main sectors of activity as for the questionnaires' sample, allowing direct data triangulation, it is therefore of interest to develop a cross-sectional analysis. The cross-sectional data for analysis is shown in Table 1.

[*Please insert Table 1 here*]

Table 1 exhibits the weighted average of purchased goodwill and other intangible assets that would be added back for 2000 and 2001, had SFAS 142 being adopted. It is possible to observe that companies from industries such as energy, $26.3 millions, health care, $35.4 millions, and utilities, $35.9 millions, have the lowest average amounts of goodwill and other intangible assets, while, conversely, IT, $144.4 millions, telecommunication services, $122.4 millions, and consumer discretionary, $117.5 millions, exhibit the highest amounts, which are significantly expressive for 2001. In fact, the amounts of goodwill and other intangible assets rose for every industry from 2000 to 2001, but this increase was particularly significant for the companies from the 3 industries with the highest amounts of purchased intangible assets that could be added back under SFAS 142.

In terms of diluted EPS in 2000, utilities recorded the lowest impact, 6.29%. Companies from consumer staples, telecommunication services, and energy, with impacts of a little above 10%, were also in the group of the less possibly impacted by SFAS 142. On the opposite side, materials, 31.94%, health care, 30.22%, and industrials 28.09%, topped the ranking of the industries with the highest impacts.

Overall, impacts on diluted EPS were higher for 2001. Only consumer staples, 8.82%, and utilities, 12.27%, did not exceed by far impacts around 10%. The companies from these 2 sectors were also the ones with the lowest impacts for 2000-2001: 9.5%, and 9.29%, respectively. The highest impacts in 2001 were recorded for IT, 66.64%, industrials, 34.85%, and consumer discretionary, 30.01%. The companies from these 3

industries have also recorded the highest average impacts on diluted EPS for 2000-2001, with 42.48%, 31.53%, and 27.18%, respectively.

Considering that the impacts from 2000 and 2001 can be extrapolated for 2002 onwards, seems justifiable to argue that companies from IT, consumer discretionary, and industrials, were the most affected by SFAS 142 adoption. The overall evidence also indicates that IT companies were the most impacted by SFAS 142. Indeed, not only they had the highest average values of purchased goodwill and other intangibles subject to nonamortisation in 2001, as they were also the ones suffering the most significant impacts on diluted EPS.

5. Caveats

Evidence shown in this paper was not subject to formal statistical testing and validation, and therefore conclusions need to be drawn carefully. An example of the possible consequences of lack of control for statistical assumptions follows. The company with the highest impact on diluted EPS in the sample is from the IT industry, 666% in 2001. Despite the sizeable number of IT companies in the sample, 48 in 2001, had this outlier been removed and the average diluted EPS in 2001 would have decrease from 66.64% to 53.88%. Similarly, the average value of purchased goodwill and other intangibles would decrease from $201.6 millions to $201.4 millions. An insignificant impact in this case, however. Overall, the elimination of this outlier, or unusual observation, does not change fundamentally any of the analyses drawn before. However, since it reduces significantly the impact on diluted EPS, it therefore smoothes the prevalence of IT overthe remaining industries in what concerns to SFAS 142 effects.

Other major outliers, i.e. impacts over 200% on diluted EPS in 2000 and 2001, are included in health care, financials, industrials, and IT industries.[111] Although these industries are among the ones with higher number of observations, the corresponding figures and findings need however to be regarded with due care, particularly for single yearly analyses.

Weighted average figures including both 2000 and 2001 are more robust, as the potential effect from possible outliers is more diluted, providing therefore more reliable analyses. Taking again IT industry as an example, had the same outlier been removed and, for the period 2000-2001, the weighted average diluted EPS would be reduced from 42.48% to 35.61%, while the weighted average value for goodwill and intangibles added back would have an imperceptible decrease from 144.42 millions to 144.38 millions.

Nevertheless, although not shown, some sensitivity analysis were performed to ensure that the findings presented in this paper were not significantly biased, and also to minimize the lack of statistical testing and validation.

6. Discussion of results and suggestions for further research

From the analysis of 10-K forms and annual reports it was possible to find that the changes in business combinations accounting resulted in significant impacts in the financial reporting. Had SFAS 142 been made effective in 2000 and diluted EPS from S&P 500 companies would have increased 20.7% in average. Similarly, adoption of SFAS 142 in fiscal year 2001 would produce an even more significant average increase of 29.6% in diluted EPS. These positive effects are sizeable enough to do not be neglectful of. Moreover, such impacts are materialised in billions of dollars in purchased goodwill and other intangible assets not to be amortised that, if not subject to significant

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[111] Outliers' threshold set arbitrarily.

impairment losses, mean meaningful earnings increases simply as a result of a technical adjustment, i.e., a change in GAAP.

To the best of the knowledge of the author of this paper, this finding is unique in existing literature. However, some authors anticipated or estimated similar impacts under different, but related circumstances. For example, Ayers et al. (2000), using a sample of pooling companies, estimated that EPS would have been considerably lower if purchased method had been used. By the time Ayers et al.' study was made, purchased goodwill and other intangible assts were still amortised over a maximum period of 40 years. This is the reason why the earnings that would decrease in case pooling method would be eliminated.

The Ayers et al. paper is also interesting because, despite a natural *opposite* finding, it brings a *comparable* measurement. In Ayers et al. study, assuming a 10-year amortisation period, the decrease in EPS would be from 8.3% in financial services, up to 42% in food, textile, and chemicals industries. Assuming a 40-year amortisation period, EPS would be reduced from 2.2% to 15.7%, in financial services and in the hotel and other services industries, respectively.

As FASB dropped the initial proposal on replacing a 20-year amortisation period for impairment tests, it has reversed entirely the impact on earnings, in a scenario of absence of impairment losses. Comparing the initial FASB's proposal with the final provisions of SFAS 142, from possible losses over 15% in some industries, to average increases in earnings of more than 20%.

Another interesting outcome from the evidence shown in this paper relates with the big bath earnings management occurred in 2002. It is seems arguable that the replacement of amortisation of acquired goodwill and other intangible assets with definite life by

impairment tests may have eased the recognition of impairment losses immediately upon initial adoption of SFAS 142. Indeed, the positive impact from nonamortisation of goodwill and other intangible assets has diluted, in some cases significantly, the negative impact on corporate earnings of impairing companies. A finding that certainly deserves further examination together with new evidence that continues to emerge from research on SFAS 142 effects.

The evidence collected from the annual reports of S&P 500 companies also corroborates the findings of literature pre-pooling of interests elimination, signalling a possible impact of the accounting changes on M&A activity in IT industry. This strand of literature expressed public concerns from the IT sector about the proposed elimination of pooling of interests (see e.g. King, 2000; King & Kelly, 2000; *Prepared Testimony of Mr. Dennis Powell Vice President and Corporate Controller Cisco Systems*, 2000). Indeed, from the cross-sectional analysis shown in this paper, it is suggested that IT industry may have suffered some impacts from the changes in the accounting regulation. Whether such effects were enough to impact M&A activity on IT industry is not definitive and therefore offers an additional opportunity for further research.

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Figures & Tables

Fig. 1 S&P 500 index companies by industry as of 31 December 2004

Fig. 2 Annual report sample companies by industry

Table 1 SFAS 142 impacts on diluted EPS by industry

	Weighted avg. goodwill and other intang. assets added back ($ millions)[†]		Average impact on diluted EPS in percentage (pct.)		Weighted avg. impact in pct.[‡]
	2000	2001	2000	2001	2000-01
Consumer Discretionary	42.4	192.7	24.27	30.01	27.18
Consumer Staples	69.7	84.5	10.18	8.82	9.50
Energy	24.6	28.0	11.97	19.43	15.71
Financials	65.4	87.2	18.63	16.30	17.41
Health Care	31.3	39.5	30.22	17.20	23.48
Industrials	94.4	96.5	28.09	34.85	31.53
Information Technology (IT)	87.3	201.6	17.80	66.64	42.48
Materials	40.9	54.3	31.94	19.88	25.74
Telecommunication Services	110.0	134.7	10.43	18.20	14.32
Utilities	23.6	48.1	6.29	12.27	9.29

[†] Weighted average from purchased goodwill, and other intangible assets than goodwill averages. The number of observations used for computing the goodwill added back average corresponds to the number of observations used for computing the impact on diluted EPS average. The number of observations used for computing the other intangible assets than goodwill average is not shown.

[‡] Weighted average for 2000 and 2001's average impacts on diluted EPS.

3.2 Management Accounting

TRANSFER PRICING IN SERVICE ORGANISATIONS: AN AUSTRALIAN PERSPECTIVE

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The purpose of this paper is to report the results of a survey of transfer pricing practices of service organisations in Australia. A unique feature of the present research is that, it is designed to examine the relationship between transfer price and the perceived value by the internal customer which has not been investigated in prior research.

Using survey responses from eighty service organizations and thirteen face-to-face interviews held with corporate staff and divisional managers, it is established that cost-based transfer pricing is the most widely practiced method in service industries and there is no significant association between transfer price and internal customer perceived value.

Key words: Transfer pricing; services; value

Introduction

Pricing for both external and internal customers is one of most contentious areas of industry practice and academic research. Price determination is still the most inconspicuous, secretive, sacrosanct, and least rational of the marketing strategy components (Morris and Fuller, 1989). According to Monroe and Cox (2001), the data relating to how companies go about pricing suggest that many companies make pricing decisions and changes in pricing policy without an established process for managing the pricing activity. As a result, it is concluded that most companies do not even have a serious pricing strategy and do not conduct pricing research to develop an appropriate strategy. Limited findings to date (e.g., Emmanuel and Mehafdi, 1994; Cooper and Slagmulder, 1998) suggest that transfer prices are also determined in an ad hoc fashion.

Domestic transfer price. Considerable research has investigated transfer pricing for multinationals. Particularly since the early 1990s, the transfer pricing literature displays a noticeable lack of focus on domestic transfer pricing issues. Major studies on domestic transfer pricing include Livesey (1967) and Piper (1969), who investigated the bases of internal pricing and the extent of divisional freedom, respectively. With reference to the rather casual approach adopted by firms documented in the literature, Emmanuel and Mehafdi (1994) question whether transfer price does in any way affect the value received by the internal buyer. Establishing an accurate transfer pricing system is a necessary first step which should be supplemented by intra-organisational cost management systems and micro-profit centres (Cooper and Slagmulder, 1998). The issue of transfer pricing is important for organisations because transfer pricing practices not only affect economic decisions, but also impinge on corporate performance.

If the basis of underlying transfer prices is inaccurate, the subsequent decisions regarding the allocation of resources are also likely to be flawed, potentially leading to some efficient units being closed while less efficient operations are expanded (Ward, 1993).

Interplay between transfer price and internal customer perceived value. For the reason that they pay for the final good or service, and thus influence an organisation's revenues, organizations are often tempted to give precedence to the satisfaction of external customer at the expense of internal customers. The emergence of the notion of 'internal customer' is rather recent. As such, the literature affords relatively greater attention to external customers. Internal customer perceived value is defined as the internal customer's overall assessment of what is received and what is given (Zeithaml, 1988). It is argued that the inability of an organisation to create value for internal units may restrict its ability to create value for external customers. In recognition of the growing importance of internal customers, organisations are now encouraged to focus on internal processes and aim to deliver value to their internal customers (Naumann, 1995). Understanding

what buyers value within a given offering, creating value for them, and then managing it over time have long been recognised as essential elements of every market-orientated firm's core business strategy (Slater and Narver, 1998). Zeithaml (1988) points out that the buyers are concerned with the costs of obtaining the perceived benefits because they typically compare costs and benefits before they make purchase decisions. As internal services increase, among other things, new questions such as 'how do we assess or price their value' would arise (Mills and Ungson, 2001).

Although many researchers agree that external customers today are strongly value- orientated (Heskett *et al*., 1994; Parasuraman, 1997), it is not yet known if value for internal customers is deemed equally important or if the internal price charged between divisions does influence the value received by the internal customer. Gronroos (1981) suggests that organisational units strive to provide their external customers with better performance, lower costs and other benefits of value, and adds that these units should also provide superior service to their internal customers for similar reasons.

Transfer pricing of services. Services represent around 25-30 percent of world trade, and are growing at a rate faster than trade in manufactured goods. In addition, services are the largest component of developed countries' gross domestic product (GDP) accounting for approximately two-thirds to three-quarters of the GDP. In Australia, the services sector generates almost 80 percent of gross domestic product (GDP). Howell and Soucy (1990) indicate that services have become a more significant part of companies' competitive advantage and cost structure, and therefore, management must respond to service pricing issues. Traditionally management accounting systems were developed for goods because services have traditionally been seen as a small part of the total problem solution offered to customers. Owing to additional measurement difficulties, transfer pricing in service organisations is complex and challenging than

manufacturing organisations. In the accounting literature, only a few studies (e.g., Tewes, 1976; Lucien, 1979; Owens, 1982; Drury, 1994; Oyelere and Turner, 2000) have investigated transfer pricing in services. Historically, services are transferred at cost or at a mandated market price equivalent to standard cost plus mark-up (Keegan and Howard, 1988).

Cooper and Slagmulder (1998) argue that many firms allocate support costs to the operating divisions using a 'peanut butter' approach that spreads these costs in arbitrary ways.

This arbitrary approach leads to low accuracy and zero transparency for these costs which then give rise to dissatisfaction and often bloated central services because the operating units are unable to discipline central services adequately. As Keegan and Howard (1988) point out, in the increasingly service-oriented business world, most companies encounter significant hurdles in applying transfer pricing to services, and state that transfer pricing in service organisations is complex and challenging. Extant literature on Australian industries encompasses Chenhall (1979) who surveyed divisionalised companies in Australia, Hilton (1981) who examined transfer pricing policies used by Australian manufacturing firms, Jaye and Blayney (1991) who investigated cost and management accounting practices in Australian manufacturing companies, Chan (1998) who investigated the role of culture and motives in transfer pricing negotiations between U.S. and Australian organizations and Perera *et al*. (2003) who investigated the diffusion of transfer pricing in a government trading enterprise as it moved from protected monopolistic status to commercialisation. Given that the examination of the literature suggests that pricing practices of businesses generally lack sound analysis, deciding what price to charge for various goods and services transferred by one organisational unit to another in the same company is probably one of the most complex issues confronting managers. World-wide, the present knowledge on transfer pricing practices in service organisations is patchy. In Australia, the gap in the literature for a transfer pricing survey in Australia is evident.

This paper is organised as follows: The first section describes the research design and methodology. The second section involves discussion of findings vis-à-vis the earlier findings in the literature. Conclusion is presented in section three. Limitations are outlined in section four, and finally future research directions are summarised in section five.

1. Research design and methodology

Sample. The population consisted of divisionalised service firms operating in transportation and storage, telecommunications, healthcare services, finance and insurance and property and business services sectors in Australia. Databases of the Australian Stock Exchange, Australian Financial Conference, Australian Prudential Regulatory Authority, Advertising Federation of Australia, Insurance Council of Australia and Business Review Weekly 'The Top 500 companies" were used and a sample of 285 divisionalised service firms was drawn using the stratified sampling method.

Data collection. The data for this research were collected by means of thirteen semi-structured interviews and survey questionnaires administered on 285 service organizations. Face-to-face interviews were conducted with managers both at corporate and managerial level. Ferreira and Merchant (1992) report that transfer pricing is a sensitive topic and the use of one-to-one interviews reduces response bias. With a view to eliminating bias and error, every effort was made to avoid leading questions, and not to deviate from the written questions. To address the interrogation error, questions were phrased in a uniform fashion. A digital recorder was used to record interviews. In order to fully capture the spirit of the interviews, in addition to transcribing interviews from an oral to a written mode, necessary care was exercised to include pauses, repetitions, tone of voice, etc.

Finally, to eliminate any recording errors, transcriptions were checked for context and content accuracy prior to data analysis. Information gathering via survey questionnaire was carried out at two levels: (1) corporate; and (2) division. Much of the prior empirical research on transfer pricing has been done with firm-level surveys (e.g., Tang, 1979; Vancil, 1979; Borkowski, 1990). Colbert and Spicer (1995) conclude that such studies resulted in limited understanding and insights because they were directed at the level of the firm as a whole rather than at the divisional level where internal transfers actually take place. Constructs were developed using Churchill's (1979) guidelines.

The questionnaire was developed based on a thorough review of the literature and feedback from the reviewers. Responses to scales that were designed to capture value dimensions were made on 5-point Likert scales anchored by strongly disagree and strongly agree at the end points 1 and 5, respectively. Because of the exploratory nature of the current research, interview and questionnaire questions were drawn largely from the extant literature with a particular emphasis on the works of Parasuraman *et al*. (1988), Sweeney and Soutar (2001) and Emmanuel and Mehafdi (1994).

Prior to mailing, the questionnaire was pre-tested on eight academics two of whom had extensive top level relevant industry experience. In the light of their feedback, appropriate revisions were made. The questionnaire was accompanied by a letter describing the research and its purposes, soliciting participation and assuring respondents' anonymity. A reply-paid envelope was provided for returning the completed questionnaires. A two-part questionnaire (one to be filled by corporate staff and the other by divisional managers) was addressed and mailed to the Chief Executive Officer or Manager of Human Resources as the case may be.

The addressee was requested to pass on the part of the questionnaire designed for the divisional management to a divisional manager of his/her choosing within their organisation with the appropriate knowledge.

Following Phillips (1981) who reports that high-level managers provide more reliable information on organisational phenomena than do lower ranking managers, questionnaire directed to corporate staff solicited answers to questions of general and strategic nature. Questionnaire designed for divisional manager's completion contained questions relevant to intra-departmental exchange of services.

In conclusion, the "benefits" construct is designed to encompass assurance, responsiveness, reliability, empathy, tangibles, flexibility and innovation and alternate solutions and customization and "sacrifice" construct includes price, time, effort and energy, and psychic costs. Two waves of mail surveys were sent four weeks apart

To assess non-response bias, the responses received from the first mailing were compared to those responses received after the second mailing using a Mann-Whitney test, and no significant differences were detected between the two waves among the studied variables suggesting that non-response bias is not evident. For missing data analysis, the listwise deletion option was employed

2. Discussion of findings

Profile of respondents. A total of 80 usable responses were available for analysis representing a response rate of 28.07 percent. The breakdown of respondents is shown in Table 1.

Table 1

Profile of respondents

	Survey Questionnaire		Interviews held	
Service categories	Usable response	%	Number of firms interviewed	Number of interviews conducted
Transportation and storage	12	15.0	1	1
Telecommunications	8	10.0	2	5
Healthcare services	7	8.7	1	1
Finance and insurance	30	37.5	3	3
Property and business services	23	28.8	3	3
TOTAL	80	100.0	10	13

Fifty-five percent of respondents had an annual turnover of AUD 80 million and 24% had an annual turnover of AUD 40-80 million, and the remainder had a turnover of less that $40 million.

Objectives of transfer pricing. Transfer pricing policies generally aim to achieve goal congruence (Abdallah, 1989). It is argued that unless the company acknowledges the importance of internal customers, these internal intermediaries may have different goals and, as a consequence, employees involved in the internal service delivery, even those who wish to be good stewards, may inadvertently set goals that would be different from those set if information flowed perfectly (Evans, 1975). Ease of understanding is the most important objective of the transfer pricing system followed by optimal pricing and goal congruence (Table 2).

Table 2

Objectives of transfer pricing ranked by importance

Objectives of transfer pricing	Mean	Standard deviation
Ease of understanding	1.8846	1.12793
Optimal pricing	2.0390	1.49949
Goal congruence	2.3056	1.69206
Divisional evaluation	2.4342	1.65195
Managerial motivation	2.9697	1.57841
Greater divisional autonomy	3.1493	0.94153

1=Very important, 5= Not important

Almost half of the respondents stated that divisional goals are not consistent with overall corporate goals. Furthermore, 37.5 percent of the respondents indicated that they do not have any formal procedures to establish if the transfer pricing objectives have been achieved. Only 26.3 percent of respondents indicated that they had formal procedures designed specifically for this purpose. These results lend support to earlier findings that pinpoint to the ad hoc nature of determination of transfer prices.

Although the findings specified in Table 3 do not suggest any particular pattern, the ease of understanding, profit maximisation, enhancing goal congruence and divisional evaluation appear to be the most commonly stated objectives of transfer pricing. It should also be noted that apart from the current research, the results relate to manufacturing organisations.

Table 3

Comparison of transfer pricing objectives reported under selected studies

Rankings are in terms of importance with 1 being most important.

	Current Research	Elliott (1998)	Mueller et al. (1997)	Alam and Hoque (1995)	Grabski (1985)	Benke and Edwards (1980)	Tang (1979)	Fremgen (1970)
Ease of understanding	1	2		2		3		

Optimal pricing	2							
Enhancing goal congruence	3		3		2	1		
Divisional evaluation	4		2	1		2	2	2
Managerial motivation								4
Preserving divisional autonomy					1			
Communicating information that results in desirable decision making by managers			1					
Profit maximization		1					1	1
Evaluation of divisional manager's performance				3				3

Transfer pricing methods used and multiplicity of methods. Overall predominance of the cost-based transfer pricing method is evident over the years and across different countries (Table 5). This finding is consistent with Zeithaml *et al.* (1985) who found that service firms prefer cost-orientated pricing and Mills and Sweeting (1988) who also reported that most service firms (68%) chose cost-based pricing methods. Drury and Tayles (1995) argue that "conventional wisdom rejects the use of full costs".

The cost-based transfer pricing does not reflect customer perceived value as there is hardly any incentive for unit managers to be concerned about providing value to internal customers. Despite its major weaknesses why do companies continue to favour cost-based methods warrants further investigation. The current survey also reveals that only 10 percent of respondents stated that they were free to source their requirements from external suppliers where the same are internally available.

Sahay (2003) considers the use of actual cost of production of the transferred good as a natural choice for organizations because it is easy to implement. Actual full costs are calculated by dividing all fixed and variable expenses for a period into the number of units produced, Use of actual full costs also allows the supplying division to recover its costs without too much effort and, consequently, there is hardly any incentive left for the supplying division to improve

efficiency and reduce cost levels. Sahay (2003) also claims that a transfer pricing policy based on actual costs is usually easy to implement, and is a natural choice, especially where a market price is not readily available for the intermediate good or service. Sahay's conclusion is based on the premise that a positive mark-up is desirable because it motivates the seller to reduce costs by undertaking specific investments, and the value to the firm from such investments more than offsets the cost of the mark-up in the form of reduced levels of internal transfers.

Butz and Goldstein (1996) report often troubled relationships between internal producers and their customers. Internal providers are often seen as overpriced, unresponsive, producers of shoddy services and goods. Although there is a consensus on how important it is to get the transfer price right (Benke and Edwards, 1980; Eccles, 1985), there is also evidence that, pricing for both external and internal customers lacks rigour and is largely arbitrary (Emmanuel and Mehafdi, 1994).

The Business Manager of a service organisation admitted:

> "To be honest with you, it *(the general pricing policy)* is very unstructured and there really isn't one. So, a little bit haphazard, a little bit slapdash".

The Funds Manager at one of the major banks in Australia made a statement in the same vein:

> "Internal pricing is ad hoc. It's decided on at upper management level, but it is not stringently adhered to".

Multiplicity of transfer pricing methods. The results reveal that the use of more than one transfer price at a time is common with 87.5 percent of respondents (Table 4). Even though the finding supports Tang's (1992) result, it contrasts significantly with the results obtained in Chenhall's (1979) and Tomkins' (1973) surveys. It is not known whether the difference in conflicting survey results is attributable to differing time periods the surveys were conducted or whether there are other contributing factors. The issue may merit an investigation.

Table 4

Single versus multiple transfer price

	Current Research	Tang (1992)	Chenhall (1979)	Tomkins (1973)
Single method	12.5%	8%	89.6 %	73%
Multiple method	87.5%	92%	10.4 %	27%

Most respondents attribute the popularity of using multiple transfer prices to different responsibility centres (55.7%) and different products (31.4%). As indicated in Table 4, the present survey also reveals that the majority of respondents that use more than one transfer pricing basis indicated that the reason behind using multiple transfer prices is involvement of different responsibility centres (53.4%), different products (30.1%) and different locations (8.2%).

Locus of transfer price decisions. Consistent with Arpan (1972) who, in regard to international transfer prices, found that the setting of transfer prices was the absolute prerogative of parent company executives regardless of parent's nationality, the current research indicates that the locus of decision making rests with headquarters. Headquarters solely set transfer prices in 60 percent of cases, and in 27.5 percent of cases transfer prices are set jointly with headquarters and divisional management. This finding stands in contrast to Eccles' (1985) view that in competitive organisations, business units rather than headquarters should determine transfer prices.

How firms decide if transfer pricing objectives have been achieved? Most firms (37.5%) state that they have no formal procedures to establish if the transfer pricing objectives have been achieved. Only 26.2 percent of respondents indicate they had formal procedures designed specifically for this purpose. Almost a quarter of respondents (22.5%) use their intuition to see if the transfer pricing objectives set have been attained. Five percent of respondents do not believe it is important to explore this relationship.

Review of transfer prices. Annual review of transfer prices appears to be the most common practice. Eighty-four percent of respondents review transfer prices annually while 5 percent review semi-annually. The most common circumstance that prompts transfer price change is the strategic nature of internal trade (41.3%) followed by changes in organisational structure (25%).

Table 5

Transfer pricing methods used

	Current Research	Oyelere & Turner (2000)	Alam & Hoque (1995)	Drury et al. (1993)	Tang (1992)	Jaye & Blayney (1991)	Bafcop et al. (1991)	Mehafdi (1990)	Mostafa (1982)	Tang (1981)	Chenhall (1979)	Tang et al. (1979) US firms	Tang *et al.* (1979) Japanese firms	Vancil (1979)	Tomkins (1973)
COST-BASED		35.72%			46.2%	65.0	70 %	36.3%	34.1 %	62 %	51.9 %	50.4 %	46.2 %	46.8 %	45.4 %
Variable Cost					7.7%						5.8 %			4.6 %	6.8 %
Variable cost at standard	20.0 %		6.6 %	20.0 %			15.1 %			1.8 %		3.0 %	0.8 %	2.9 %	
Variable cost at actual	38.2 %		3.3 %	38.2 %						4.3 %		0	0	1.7 %	
Variable cost plus	23.3%		0	21.9 %	0.9 %		6.1 %	6.1 %	7.3 %	1.8 %	3.8 %	0.9 %	0.9 %		13.6 %
Full Cost					41.0 %				9.7 %	18.4 %	21.1 %			25.5 %	6.8 %
Full cost at standard	57.4%		37.8 %	56.2 %	25.8 %		36.4 %	15.1 %		12.9 %		16.8 %	15.1 %	12.5 %	
Full cost at actual	38.6%		14.8 %	39.8 %	9.0 %		27.3 %		2.4 %			9.0 %	9.2 %	13.0 %	
Full cost plus	51.2%		8.2 %	50.0 %	16.6 %		9.1 %	15.1 %	7.3 %	22.7 %	21.1 %	19.0 %	20.2 %	16.7 %	18.2 %
MARKET BASED		57.14%	18.2 %		36.7 %	13.0%	9.1	45.5 %		50.3 %		1.7 %	0		
Market based current	39.3%		11.5 %	38.6 %	42.4 %		3.0 %	27.3 %		38 %	50.3 %	31.5 %		31.0	47.7%
Market based adjusted	23.1%		6.7 %	21.4 %	7.6 %		6.1 %	18.2%		2.3 %	38.0 %	21.6 %	17.7 %		
Other market based					4.0 %						12.3 %	8.2 %	16.0 %		
NEGOTIATED	21.3%	7.14%	11.6 %	20.7 %	16.6 %	11.0%	12.1 %	42.4 %		27.6 %	33.3 %	18.1 %	19.3 %	22.2 %	21.5 %
Other	9.4%			14.3 %	0.5 %	11.0%	9.1 %			7.4 %	9.5 %	1.7 %	1.0 %		4.5 %

Conflict arising from transfer pricing. Crompton (1972) argues that cost-based methods, whether they are full cost or variable cost, are at odds with the goal congruence objective of transfer pricing and as a consequence the use of cost-based transfer pricing methods is apt to give rise to conflict. Spicer (1988) reports that the presence of internal transfer of goods and services is the source of inter-divisional conflict. Consistent with the literature, the current research demonstrates that almost 90 percent of respondents experience some kind of conflict emanating from transfer pricing (Table 6).

Table 6

Types of conflicts arising from transfer pricing

	Division	
	Frequency	Percent
Opportunistic behavior	27	37.5
Negative motivation to reduce costs	18	25.0
Perceptions of hostility between departments	2	2.8
Restricted flow of information	7	9.7
Lack of trust between departments	7	9.7
Dissatisfaction with the company's internal pricing policy	8	11.1
Others	3	4.2
Total	72	100.0
No answer	8	
Total	80	

The most common cause of conflict is opportunistic behaviour (52.2%) and negative motivation to reduce costs (32.8%). Almost half of respondents (49.3%) indicated that they use negotiations between divisions to resolve conflicts and 41.1 per cent stated that top management's forced solution for conflicts is their practice.

The Account Manager of a major telecommunications company stated:

"Yes, we have conflicts (*arising from internal pricing*) all the time. One of the biggest problems we have had here is that they *(internal suppliers)* always overcharge".

The divisional manager at the same telecommunications company who supplies services to internal departments said on pricing strategy he employed:

"I have a cost to recover to a zero budget. We look at total compensation for all my employees including my salary and benefits. We look at training. We look at annual leave. We look at all the travel and living expenses that we incur……I recover that money back into my department every month and I should end up with zero…. I purely need to recover all the money that the company spends on having me here."

Extent of intra-corporate trade. A comparison of prior surveys associated with the extent of internal trade as a proportion of total company sales is shown in Table 7. The present survey's findings are consistent with many prior studies which reported small volumes, typically less than 20%. Although no researcher so far has investigated the reasons for this low level of internal trade, Williamson (1993) argues that a relatively higher proportion of internal trade can be achieved through a higher level of vertical integration.

Internal value creation and setting transfer price. About 35 percent of divisional staff considers value creation for internal customer very important or important in setting transfer prices. For 41.8 percent of respondents, the issue of setting transfer prices with a view to create value for internal customers is either of little importance or unimportant. Internal providers can prosper only when they approach their customers with the desire to provide the same level of increased net value as their external competitors (Butz and Goodstein, 1996).

859

A bank executive interviewed stated:

> "For me the benefits that I receive from most internal service transactions are very little. The majority of the time, the benefits that I receive from the internal service is too little and too late. For example the deliverables are over budget, over time and fail to satisfy quality expectations."

Table 7

Intra-corporate trade (expressed as a percentage of total company sales)

	Current research	Elliott (1998)	Drury et al. (1993)	Mehafdi (1990)	Scapens et al. (1982)	Tang (1981)	Chenhall (1979)	Vancil (1979)	Tomkins (1973)
0-less than 5%			36%						
0-less than 10%		27%		55%		50%			
5-19%			36%						
10-25%		8%		21%					
0-19%	75.0%		72%				52.6 %		% 91.1
0-less than 15%								77.1 %	
15% and above								22.9 %	
20-39%	13.8%								
20-49%			16%						
25% +		13%		24%	15% (UK) 18% (USA)	25%			
40-59%	11.2%								
50% +			13%						

Thirty-five percent of the firms surveyed report that the internal supplier cares about reducing their costs without sacrificing what they from the services. 25 percent are undecided. Smith and Nagle (2002) believe that 'willingness to pay' is important to tactical pricing but it is woefully inadequate as a basis of pricing strategy. Pricing strategists manage demand by making subtle changes to capture different levels of price from different types of buyers, by creating incentives for some customers to change when or how they buy, and by communicating information and framing price offers that cause customers to view the offer more favourably. To support those efforts, pricing strategists need more fundamental

customer information than simple willingness to pay. They must understand the level and antecedents of value especially in the business-to-business (B2B) markets where benefits can be quantified and value can be readily measured. (Smith and Nagle, 2002). If value is of concern, according to Blois (2003), both the buyer and the supplier should seek to enhance the value of their operations. Following Zeithaml (1988), the net value is defined as the sum of perceived benefits less the sum of all the perceived costs. For 60.8 percent of respondents, if and how internal customers value an internal transaction is not considered as an issue. Only 39.2 percent of respondents stated that it is important for them to find out if and how internal customers value the services they acquire internally.

Lack of internal customer orientation is also evident with 30 percent of respondents indicating that there is an association between satisfaction of internal customers and external customers.

The Account Manager of a telecommunications company commented that:

> " …one problem that we have is that they *(internal divisions)* are a little removed from the end customer. The time that they see it is if we then go back and say you are too costly, or if the customer goes back and says you are too costly, then you need to do something".

Given that overhead allocations and transfer pricing decisions are typically made at the headquarters level, and out-sourcing internally-available service is either restricted or totally disallowed, deciding who the internal customer is becomes difficult.

The notion of value appears to be of little concern to divisional managers and this may explain the divisional managers' indifference to value. The ability to meet customer requirements is vital not only between two separate organisations but also within the same organisation (Oakland, 1993).

Table 8

Importance of value creation for internal customer in setting transfer price

	Frequency	Percent
Very important	9	11.4
Important	17	21.5
Undecided	20	25.3
Of little importance	29	36.7
Not important	4	5.1
Total	79	100.0
No answer	1	

The Project Manager at a telecommunications company explained the lack of focus on internal customer value by stating:

> "There are many conflicts due to internal pricing mainly because not all organisations within our company are aligned to deliver value to the customer. This is a direct result of internal service providers having organizational metrics which are in direct conflict with delivering value to the *(external)* customer."

The interplay between transfer price and perceived value. One of the principal objectives of this research was to identify latent variable (s) or factors present in the pattern of correlations among those variables. It is used to study the interrelationships among variables in an effort to find a new set of variables which can express what is common among the original variables (Stewart, 1981). Although data collection tools benefit from the extant literature, as one of the chief aims of the present research was to uncover the underlying factor structure of measures and to examine their internal reliability, no hypotheses were made about the nature of relationships among variables. Exploratory factor analysis was employed to detect factor structures and principal factor analysis was used to extract factors.

Prior to analysis, tests were performed to check if the data were appropriate for factor analysis. These tests include missing data analysis, test of normality using skewness and Kurtosis

statistics, sampling adequacy using the Kasier-Meier-Olkin statistics, anti-image correlation matrix, Bartlett's test of sphericity, presence of substantial correlations, test of linearity, face validity, content validity, construct validity and convergent validity.

The correlation matrix has shown no evidence of multi-colinearity among the variables.

A total of fifty-seven variables were operationalised. Six scales were constructed to evaluate both components of value: benefit components (assurance, responsiveness, reliability, empathy, tangibles, flexibility and innovation) and cost components (price, time/effort and energy and psychic costs). The principal objective of the analysis was to identify latent variable (s) present in the pattern of correlations among those variables.

Using Churchill's (1979) methodology, scales were constructed based on the literature (i.e., Parasuraman *et al*., 1988; Porter, 1985; Brady and Cronin, 2001) and pilot study findings. The reliability of scales is summarised in Table 9. The initial solution provided in Table 10 contains variables which are standardized to have a mean of 0.000 and ± 1.000. Using Kaiser's criterion of 'eigenvalue > 1.000", the initial solution suggests a seven- factors solution. The seven factor solution is also consistent with Gorsuch (1983) who recommends that regardless of the method used to decide how many factors to retain, they should collectively account for at least 70 percent of the total variance. Examination of variances given in Table 10 reveals that the seven components selected for extraction collectively account for 78.102 percent of the total variance.

Table 9

Reliability scores (Cronbach's Alpha) of scales

CONSTRUCT	Number of items	Cronbach's Alpha based on standardised items	Comment	Inter-item correlations (range)
Assurance	4	0.938	Excellent	0.756 - 0.852
Responsiveness	7	0.946	Excellent	0.677 - 0.809
Reliability	5	0.923	Excellent	0.634 - 0.798
Empathy	5	0.791	Very good	0.072 - 0.681
Tangibles	3	0.883	Very good	0.618 - 0.799
Flexibility and innovation	6	0.948	Excellent	0.654 - 0.870
Alternate solutions and	8	0.942	Excellent	0.541 - 0.766

customisation				
Price	8	.844	Very good	0.062 – 0.685
Time, Effort and Energy	3	.882	Very good	-0.055 - 0.789
Psychic costs*	1	-.282	Very low. Inconsistent	
Overall service value	5	0.852	Very good	0.271 - 0.698

*Owing to its low reliability score (α=-.282), the psychic scale was discarded.

Table 10

Initial solution

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings(a)
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	27.828	57.975	57.975	27.828	57.975	57.975	15.836
2	2.305	4.803	62.777	2.305	4.803	62.777	12.832
3	1.850	3.855	66.632	1.850	3.855	66.632	19.929
4	1.678	3.495	70.127	1.678	3.495	70.127	8.672
5	1.445	3.010	73.137	1.445	3.010	73.137	13.605
6	1.215	2.531	75.669	1.215	2.531	75.669	13.778
7	1.168	2.434	78.102	1.168	2.434	78.102	2.172
8	.914	1.904	80.007				
9	.815	1.698	81.705				
10	.718	1.497	83.202				
11	.697	1.452	84.653				

Extraction Method: Principal Component Analysis.

a When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

Factor 1 is predominant with an eigenvalue of 27.828 and accounts for 57.975 percent of the variance. Factors 2-7 have relatively smaller eigenvalues. Factors 8 and above were found to be insignificant as their eigenvalues were less than 1.0, and these factors were dropped. Inter-item correlations were examined and variables with inter-item correlation of less than 0.30 were dropped. Also factors with loading of less than 0.40 and cross loading of less than 0.30 were deleted.

The component matrix obtained shows that each variable's loading was high on one factor (close to 1.000) and low (to close to zero) on other factors. The variables that load on multiple

864

factors complicate both the analysis and interpretation of factor solution. For this reason, the data were rotated using the varimax rotation with Kaiser normalisation.

A close examination of factor loadings given in Table 11 shows that factor 1 had the highest loading on assurance dimension followed by reliability. To obtain a clearer pattern, the data were rotated again using the Direct Oblimin method which shows that assurance loadings were slightly stronger than responsiveness loadings. Assurance encompasses behaviour of employees of the internal supplier that instills confidence in the internal buyer, trustworthiness as well as courtesy, competence, knowledge and skillfulness of the internal supplier.

The responsiveness dimension includes timely communication to the internal buyer when services will be performed, willingness displayed by the employees of internal supplier in responding to requests expediently and efficiently, listening to their problems, providing quick answers and solutions, ability to provide emergency service deliveries and welcoming complaints.

Loadings on reliability and empathy dimensions are relatively lower. Factor one was renamed 'confidence'. Factor 2 was loaded on both "Alternative Solutions and Customisation" and "Flexibility and Innovation". Alternate solutions and customization loadings are relatively stronger than the Flexibility items.

The alternative solutions and customisation was labeled 'solution' and includes the capability to customize the service offering, ability to meet unique specifications, capability of offering a range of services, offering different services from its competitors, willingness to help should problems arise, possession of specialized expertise in the internal buyer's area of activity, comprehensive knowledge about processes of the buyer's business and utilization of new technologies in resolving internal buyer's problems.

Table 11
Seven-factor solution

Factor	Behaviour of employees	Feeling safe In dealings	Courtesy of internal supplier	Competence of internal supplier	Keep Informed of timing	Willingness to help	Rapid response	Listening to problems	Quick Answers and solutions
1	.834	.555	.706	.664	.638	.638	.591	.681	.647
2									
3									
4									
5									
6									
7									

Factor	Emergency service deliveries	Welcoming Complaints	Provision of reliable service	Showing Interest in solving problems	Service right the first time	Provision 0f accurate information	Telling truth	Best Interest At heart
1	.551	.658	.655	.738	.675	.526	.584	.551
2								
3								
4								
5								
6								
7								

Factor	Identification of needs	Commitment to improvements	Willingness to meet needs	Always Provides help	Introduction of breakthrough solutions	Different services	Alternatives offered
1							
2	.673	.579	.550	.621	.765	.653	.746
3							
4							
5							
6							
7							

Factor	Assistance In solving Problems	Specialised expertise	Comprehensive Product knowledge	Using new technology	Concern About problems	Always use Internal services	Effort to reduce costs	TP easy to understand
1								
2	.663	.512	.665	.759				
3					.500	.506		
4							.525	,753
5								
6								
7								

Factor	Meeting unique specs	TP and output competitiveness	When services are provided	Individual attention	Listening To problems	Rapid response	TP improves Accumulated value
1							
2							
3							
4							
5	.556	.667					
6			.732	.693	.550	.519	
7							.454

The Flexibility construct includes ability to identify needs before they are raised, commitment to improvements, willingness to meet needs beyond contract terms, provision of assistance whenever such assistance is needed by the internal buyer. Introduction of breakthrough

solutions and new technologies and commitment to be one step ahead of what the competition offers. The variance explained by each of the remaining factors (3 – 7) ranges between 2.434-3.855 percent.

From the weighting point of view, given their lower eigenvalue scores and the percentage of variance that they explain, these remaining factors appear to be insignificant. Although inspection of Table 11 suggests a seven-factor solution, the most dominant factor among all is factor 1, which on its own, explains 57.975 percent of the variance. There is also a large gap between factor 1 and factor 2. The variance explained by factor 2 stands at mere 4.803 percent of the total variance.

The factor analysis reveals that the dominant factor in intra-divisional exchange of services is the responsiveness of the internal division, and domestic transfer price does not seem to play a significant part in internal transactions. The overall findings offer empirical support for the notion that although price is regarded as a component of sacrifice (Brady and Cronin, 2001) it does not correlate strongly with the dimensions of benefit and sacrifice. This result is consistent with the findings of Frost and Kumar (2000) who conducted a survey on Singapore Airlines to determine the dimensions of service quality among internal customers. They found that responsiveness was the most important dimension for internal customers. The results of this research are also consistent with Cronin *et al*. (2000) who found that service customers (in an external customer context) place greater importance on the quality of a service than they do on the costs associated with its acquisition. Stafford *et al*. (1998) examine service quality and customer service satisfaction in the automotive insurance business using SERVQUAL (where price was not used as a variable) and find that reliability is the most important dimension.

4. Conclusion

This paper reports the results of a survey of transfer pricing practices in Australian service organizations and whether transfer price is associated with the internal customer's perception of value derived from intra-organisational exchange of services. The present research demonstrates that there are similarities in transfer pricing practices in both manufacturing and service organisations. Although cost-based pricing strategy is often responsible for arbitrary charges, it still appears to be the most favoured method in both manufacturing and service businesses.

Headquarters' heavy involvement in setting transfer prices may be seen as an indication that internal departments do not operate under competitive market conditions. This view is also supported by the finding that most internal departments face restrictions in out-sourcing. Lack of internal customer orientation is also evident. Only 30 percent of respondents believe there is an association between satisfaction of internal customers and external customers. Only 35 percent of divisional staff deem value creation for internal customer is important in setting transfer prices while 41.8 percent regard taking into consideration the value creation in pricing services for the buyer as either "unimportant" or "of little importance".

External customers get precedence over internal customers. Perceptions about internal customer orientation may change when a positive relationship can be established between internally created value and either net operating profit or shareholder value. The research also highlighted that among all value dimensions, internal buyers responsiveness was used as a key criterion in assessing the value of an internal service delivery. The two most significant contributions of the current research lie in the incorporation of transfer price as a sacrifice variable for the internal buyer and in providing insight into the nature of transfer pricing in non-manufacturing settings.

5. Limitations

It is important to note the limitations associated with this study. First, as reported by Slater and Narver (1998), and Parasuraman (1997), the criteria customers employ for assessing value may change over time. Therefore, results reported in this paper reflect responses of managers at the time of research. Second, data analysis has been based responses from single respondents within each subject organisation. Absence of responses from multiple respondents from each organisation should be considered a limitation. Third, the present research is exploratory and aims to gain a broad understanding of transfer pricing behaviour and practices of service organizations in Australia and is carried out on a sample from selected industries. Therefore, generalization of findings was not intended to be made. Finally, inherent limitations of mail surveys (i.e., giving convenient answers, misinterpretation of questions, knowledge of respondent, whether questions have been answered conscientiously and truthfully, motivation, etc.) apply.

6. Implications for further research

There are several implications for future research. One area that warrants further research is why companies continue using cost-based transfer pricing despite its well documented weaknesses. Future empirical research should focus on reasons underlying the transfer pricing method choice preferably using case study or Interviewing. Another suggestion for new research is to explore both transfer pricing practices and the development of internal customer value in manufacturing organisations and compare findings with that of non-manufacturing organisations.

Following Brown *et al*. (1993), who doubt whether a scale to gauge service quality can be universally applicable across industries and heterogeneity of services, consideration may be given to develop an industry-based scale to measure value. Finally there is another direction for new research which involves investigation of the relationship between internally produced value and net profit and / or shareholder value. Lack of a theory is an impediment to

comprehensive understanding of transfer pricing. It is certainly a challenge. To this end, analysis of case studies using a grounded theory approach would be recommended.

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CEO COMPENSATION AND FIRM PERFORMANCE: AN AUSTRALIAN PERSPECTIVE

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Abstract

The international literature on executive pay and performance has addressed the association between various components of executive pay and firm performance against the backdrop of agency theory. Australian research is limited and the mixed results have been attributed to the lack of disclosure, particularly in regard to equity based compensation. This study addresses this deficiency by examining the relationship between the components of CEO compensation, namely fixed salary, cash bonuses, equity based remuneration and other benefits, and firm performance using a sample of 80 Australian firms over the period 2003 to 2006, a period which spans disclosure reform in Australia. The effect on CEO compensation of corporate governance variables, ownership structure, CEO tenure, risk and size are controlled. The results are consistent with the proposition that performance based compensation (cash bonuses and equity based remuneration) are effective in aligning the interests of the CEO to that of the shareholders, with positive associations between these components of CEO compensation and firm performance. Greater numbers of independent directors on the board of directors are associated with greater performance based compensation, suggesting that corporate governance measures are effective in mitigating agency problems. CEOs with firm ownership and with longer tenure are less likely to have equity based compensation. Longer serving CEOs are likely to have accumulated share ownership over their tenure, and are less likely to

need additional incentives to act in shareholders' interest. Overall, the study provides evidence that CEO pay structure is an effective tool in resolving agency problems between the CEO and shareholders, and refutes the public criticism levelled at high CEO remuneration.

Introduction

The generous level of Australian CEO pay has been subject to much public criticism. CEO compensation is consistently in the news, and was particularly evident following several large corporate collapses in Australia in 2001[1], and more recently during the global financial crisis. Even Prime Ministers have criticised the excessive level of pay awarded to Australian CEO's[2].

The separation of ownership and management in a company, suggests a moral hazard problem (Jensen and Murphy, 1976). Because of this, incentives need to be offered to the CEO in order that they align their interests with those of the shareholders of the company. Typically, the shareholder goal is to maximise the value of the company, and to induce the CEO to achieve this, CEO compensation has been used as incentive. Incentives such as bonuses based on annual profit, share grants, grants of options over shares of the firm have been included in executive remuneration packages. If CEO compensation is based on current and future performance of the firm, then one would expect to find a close relationship between these components of the remuneration package and the return to shareholders. The sensitivity of CEO remuneration to firm performance has been extensively investigated (for example Murphy, 1999). Results from international research is largely

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[1] For example HIH and OneTel
[2] Former Prime Minister John Howard criticized, in 2007, the amount received by the CEO of Macquarie Bank and Telstra. More recently, Prime Minister Kevin Rudd condemned the excessive salary packages, even at most recent the G20 summit.

consistent with the agency proposition that Ceo remuneration is positively associated with firm performance. Earlier Australian research on pay-performance sensitivity had mixed results (for example Craswell, Taylor and Saywell, 1997), but more recent studies have found a positive relationship between executive pay and performance (Matolcsy, 2000, Clarkson, Nichols and Walker, 2005, Merhebi, Pattenden, Swan and Zhou, 2006). Not all of these studies included all components of CEO pay, some predated the introduction of more performance based incentives in executive pay in Australia and also did not include firm years since the introduction of more extensive disclosure requirements on executive remuneration.

This study investigates the pay performance relationship of 80 Australian firms in the period from 2003 to 2006, using total CEO remuneration as well as the individual components of CEO remuneration. The period of study spans the introduction of international accounting standards in Australia as well as more enhanced remuneration disclosures. It also precedes the global financial crisis, which has seen the eroding of shareholder returns. Although the study spans regulatory changes, a significant year affect was not found. A positive association was found between changes and CEO total pay and performance for the current period. This was largely due to the effect of the share-based component of remuneration. There was also a positive association between the cash bonus component of remuneration and accounting performance. These results indicate the effectiveness of tying executive remuneration to firm performance. No significant association between the salary and other benefit components of CEO remuneration and shareholder return was found.

The next section discusses the prior research that has attempted to establish a link between executive compensation and performance of the firm. It also reviews other factors that may impact on the level of executive compensation. This is followed by sections that develop the hypotheses, research design and a discussion of the results of the hypothesis testing, and finally a conclusion.

Prior research

With the problem of moral hazard, a constant or fixed salary would not entice executives to take any more additional effort that would increase the shareholders wealth (Holstrom, 1979). Another potential problem is that executives may undertake bad decisions that would affect the wealth of the shareholders through the reduction in accounting profit or the market value of shares, but the executives would not be penalised by a reduction in pay since their salary is fixed (Fama and Jensen, 1983). A similar argument could be applied to other benefits such as termination benefits, housing allowances, car allowance and additional perquisites attached to the employment contract. Employment contracts that incorporate performance hurdle incentives for executives have been used in attempts to align the interests of managers and shareholders. Other mechanisms, both internal and external, may work in tandem with contracts in disciplining executive's behaviour. Strong corporate governance, for example independent directors on the board, the managerial labour market and the market for takeovers could mitigate the moral hazard problem.

Executive remuneration contracts could include rewards in the form of a bonus for achieving a certain performance threshold. This performance

threshold is usually some accounting measure of profit (Watts and Zimmerman, 1986, p 208). There is, however, an inherent weakness of an annual bonus as a component of executive pay. Earnings are open to manipulation through a degree of discretion in accounting choice exercised by executives (for example Healy 1985). Executives whose performance is based on accounting numbers are assumed to be detached from the effect of their decisions on the shares price of the firms. Shareholders on the other hand would want to maximise their capital gain from movement in share price. Concerns with manipulation of accounting numbers by management have been argued to be the catalyst for shift to more equity based compensation. Unlike a bonus, which is usually based on accounting numbers, equity based compensation incorporates 'public information' (share price) which cannot be easily manipulated by the executives to increase their level of compensation (Hall and Murphy, 2003). By providing the executives incentives in the form of share ownership, executives share the perspective of the principal - to improve the market performance of the firms (Cohen, Hall and Viceira, 2000). Share based remuneration could include options or restricted shares.

Hall and Murphy (2003) argue that options would increase the retention rate of the executives. The maturity of the options is usually long term thus the executives cannot exercise the options and make any gain in the short term. For the executives to enjoy any gain, they would have to remain in the firm until the options mature. They also argue that a further benefit with issuing options is that firms appear not to have incurred any cash outlay in attracting employees. In effect, firms are borrowing from their executives for their

current employment services and in return the employee receives the possible future payoff from the options.

Firms have issued restricted shares to the executives where the shares would be vested once the firms achieve certain long-term performance thresholds. For instance the Investment and Financial Services Association (IFSA) recommends that the performance thresholds should offer executives the incentive to significantly improve upon medium and short term performance of the firm and shareholder return[3]. The most common thresholds in Australia ASX 200 firms are a measure of total shareholder return.[4] The survey by Equity Strategies on Australian executive plans in ASX 200 firms in 2003 found that 49% of the firms used total shareholder return as their primary performance threshold (cited in Stapledon, 2004).

The corporate collapse of Enron and WorldCom in Unites States attracted a lot of public and political scrutiny of executive compensation (Stapledon, 2004; Hill, 2004; Huang, 2006, Hill 2006). The corporate collapse of OneTel and HIH in Australia, which ran parallel to Enron (Hill, 2004) had a similar impact.

For an optimal compensation contract to be achieved it should be tied to a firm's performance. A pay performance model measures the sensitivity of the changes in executives' compensation for given changes in a firm's value. Murphy (1985) termed this pay performance sensitivity. Jensen and Murphy (1990) found a positive association between pay and performance. The change in performance included both current change and a lagged change. Murphy (1999) updated these estimates and found an increase in sensitivity

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[3] IFSA, Executive share and options Scheme Guidelines (IFSA, Sydney, 2004) para 7.1
[4] changes in firms' share and dividends paid.

of pay to performance. This coincided with the increase in share options in executive compensation packages in the 1990s in United States.

Australian research on pay performance is limited. The majority of studies found either an insignificant or no association between executive pay and performance (Defina, Harris and Ramsay, 1994; Izan, Sidhu and Taylor, 1998; O'Neill and Iob, 1999; Fleming and Stellios, 2002; Coulton and Taylor, 2002). Craswell et al (1997) found mixed results and Matolcsy (2000), who reviewed pay performance sensitivity in periods of economic recessions and booms, found a positive association between executive pay and performance. Stapledon (2004) attributed the lack of association between pay and performance in Australia to the time period of the studies. He argued that the data used by the studies pre-date the introduction of more performance based compensation into Australian executive pay[5].

More recent research on Australian pay performance sensitivity has found a positive association. This is more consistent with overseas findings. Clarkson et al. (2005) found that the salary and bonus component has a positive association with performance. In addition they furthered the empirical research on Australian CEO's pay by measuring the sensitivity of options to performance, but their result is inconsistent with the prediction of agency theory. They failed to find a significant association between options payment and performance. They argued that this anomaly resulted from the lack of disclosure for options compensation in the annual report prior to the tightening of remuneration disclosure in Australia. Merhebi, et al (2006) also found a significant positive association between pay and performance. However, their

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[5] For instance, the Australian Council of Superannuation Investors showed that fixed salary was reduced from 90.5% from 1987 to 42.8% in 2002, followed by an increase in performance based incentives from 9.5% to 57.2% (cited in Stapledon, 2004, p13).

result may not reflect the real association between pay and performance since their model did not include equity holdings in measures of CEO pay and so did not address the anomaly in the findings by Clarkson et al (2005).

Factors other than performance can also impact on the level of CEO pay. A positive association between compensation level and size has been well documented (for example Murphy, 1985; Gomez-Mijia, Tosi and Hinkin, 1987; Jensen and Murphy, 1990; Smith and Watts, 1992; Hall and Liebman, 1998, Core and Guay, 2002). In addition, the pay-performance sensitivities of larger firms were found to be lower (Core and Guay, 2002).

Risk is another factor that can affect pay-performance sensitivity. However, by inducing executives to take on more risks through option holdings, the principals would need to consider the optimal point where the marginal cost from excessive risk would harm the companies. Holstrom and Molgrom (1987) predicted a negative association between pay and firm risk. This negative association was confirmed by Argawal and Samwick (1999), but Core and Guay (2002) found a positive association after controlling for form size. Bothe these studies used the variance of the return on firm's shares as a proxy for risk. Using leverage as a measure of risk, Lyengar, Williams and Zampelli (2005) found that pay performance sensitivity decreases (increases) as leverage increase (decreases).

Executive experience could affect the level of CEO pay: executives with more experience would expect higher compensation. In an Australian study, Clarkson et al (2005) included age and tenure as a proxy for experience. They found an insignificant association between age and tenure on the level of CEO compensation. Brunello, Graziano and Parigi (2001) included

executive's experience in their study of the pay performance sensitivity of Italian firms and found a positive, but not significant association between executives' experience and executive pay.

Core, Holthausen and Larcker (1999) argued that stronger corporate governance characteristics in a firm are associated with lower level of total CEO compensation and higher incentive based payment. The board composition, if made of a majority of independent directors, would control the rights to evaluate management decisions and this is argued to mitigate decisions that are against the principals' interest. In the case of compensation, this could prevent excess executive pay that is not linked to the firm's performance.

Lawrence and Stapledon (1999) in an Australian study, found no association between the proportion of independent directors on the board and the level or nature of CEO compensation. They argued that the period of their study pre-dated the Australian public interest in corporate governance and that the independent directors may not have been performing effectively.

The level of CEO ownership could also influence the pay performance sensitivity. From an agency theory perspective, executives who have more ownership would have lower pay since they do not need additional incentives to align their goal with the shareholders (Jensen, Murphy and Wruck, 2004). Clarkson et al (2005) found a significant negative association between Australian CEO firm's ownership with their level of pay, consistent with the above proposition.

A firm's ownership structure has been argued to have an association with the level of pay and performance. A firm in which independent[6] individuals or groups hold more than 5% of share ownership is an owner controlled firm. While a firm which has no independent party holding more than 5% of shares is deemed to be a management controlled firm. Dyer, Schwab and Theriault (1976) found executives in management controlled firms do not base their pay on performance. An owner controlled firm would, however, rely on performance as a basis of executives' pay since it is a proxy for the managerial effort. Gomez-Mejia et al (1987) found that a management controlled firm has a low pay to performance sensitivity and the reverse is true for owner controlled firms. Similar results were also found by Ke, Petroni and Safieddine (1999) and Blair and Kaiserman (1983).

The quality of audit is also argued to influence the level of excess pay (Clarkson et al, 2005). Firms which are audited by higher quality auditors, represented by the 'big four' accounting firms are argued to have lower level of excess pay. A high quality audit should detect any earnings management by the CEO in order to maximise their annual cash bonus. For instance, Becker, Defond, Jiambalvo and Subramanyam (1998) found that the level of earnings management is lower in firms that are audited by 'big-four' accounting firms. However, Clarkson et al (2005) failed to find a significant association between the level of pay with the quality of audit.

Hypothesis development

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[6] Is not involved in the actual management of the companies or is on the board

Because it is impossible to achieve perfect monitoring by shareholders of management behaviour (Easterbrook 1984, Fama and Jensen 1983), it has been argued that the best proxy for direct monitoring is the performance of the firm (Clarkson et al 2005). By linking executive compensation to the performance of the firm, executives have incentives not to engage in behaviours that reduce firm value (Tosi and Gomez-Mejia 1989). If they are penalised with lower remuneration for firm non-performance, then they are motivated to maximise their effort to increase the value of the firm. Lambert (1983) argued that the optimal executive contract should incorporate both the current and long-term performance of firms. Options and shares granted to executives are usually based on long-term performance hurdles (Stapledon 2004) and executive pay has increasingly incorporated both bonuses (based on current profitability) and share-based remuneration (see Jarque, 2008, p.269 for an indicative table) into the remuneration package. Total CEO compensation can be based on both current and prior periods (Merhebi et al, 2006). Prior studies have shown that only one lagged measure is necessary. Any additional lag was found to be insignificant (Murphy, 1999 and Jensen and Murphy, 1990). Thus if CEO compensation is structured to align executive and shareholder interests, then a positive association between shareholder return and executive compensation would be expected:

Hypothesis 1: *Changes in the level of total CEO compensation from one period to another would be positively associated with changes in firm performance over the same and the prior period.*

Consistent with earlier studies in Australia (for example Coulton and Taylor 2002, Clarkson et al 2005, and Rankin 2006), the components of executive

886

remuneration will also be examined to determine if there is any relationship between these components and shareholder return. The components are fixed salary, other benefits, cash bonus and equity based pay. Salary is fixed at the beginning of a period, so would not vary with changes in firms' performance in the current period. Similarly, it is difficult to tie other benefits to a firm's performance as such benefits included perquisites like superannuation, car and housing allowances (Stapledon 2004). Thus it is difficult to predict the relationship between changes in base salary and changes in other benefits with changes in firm performance.

Hypothesis 2: *Changes in the level of CEO fixed salary from one period to the next has no association with changes in shareholder wealth over the same period.*

Hypothesis 3: *Changes in the level of total CEO other benefits from one period to the next has no association with changes in shareholder wealth over the same period.*

The other components of executive pay – namely annual cash bonus and equity based pay – are both incentives offered to executives to ensure they align their interests with that of the shareholders. Cash bonuses are usually based on accounting profit, a short term measure of performance (Watts and Zimmerman 1986). The weakness of an annual cash bonus based on accounting performance measure is that it is open to earnings management by the executives. This has been argued to be the catalyst for the introduction of an equity based pay component into executives' compensation (Hall and Murphy, 2003). A portion of the executives' pay can now be linked directly to the share price of the firms through equity based compensation (Hall and

Liebman, 1998), and executives would no longer be detached from the effect of their business decisions on the share price of the firm. Equity based pay is often tied to the long term performance of the firms so as to also link executive compensation to the long term effect of management decisions (Jensen and Meckling, 1976). The long term performance hurdle of the firm is often based on prior year performance (Stapledon, 2004). Murphy (1999) and Jensen and Murphy (1990) have shown that only the prior year is significantly associated with executive remuneration. The two final hypotheses are thus:

Hypothesis 4: *Changes in the level of CEO cash bonus from one period to another would have a positive association with changes in firms' accounting performance over the same period.*

Hypothesis 5: *Changes in the level of CEO equity based pay (inclusive of shares, performance rights and options) from one period to another would have a positive association with changes in shareholder wealth over the same and prior periods.*

Research design

Sample and data

This study focuses specifically on Australian chief executive officers compensation and its association with firms' performance. Firms are required under s300A(C) of CLRA98 to disclose remuneration details of the five top paid officers of the firm and this will usually include the CEO. Some firms, however, argued that option plans were too complicated to value (Clarkson, Van Bueren and Walker, 2006). The Australian Investment and Securities Commission (ASIC) issued PN68 in November 1998 to address this issue stating that firms should use Exposure Draft ED 2 Share based payment as the basis for valuation, but disclosure remained limited. With the adoption in Australia of international accounting standards in 2005, the requirement for

disclosure and valuing became mandatory. This study spans this period. In addition, Clarkson et al (2005) argued that shareholders would be able to relate more with pay performance figures of the CEO since the role and responsibility of a CEO is well defined within a firm.

The sample firms are a selection of firms that are publicly listed in the Australian Stock Exchanges (ASX). The sampling period is the four years from 2003 to 2006. This addresses the limitation of previous Australian studies that did not include data subsequent to the regulatory changes for executive compensation disclosures.

The sample excludes firms where the CEO was terminated, quit or retired in any of the sampling years and firms where the CEO was appointed midway through the fiscal year. Firms that were publicly listed partway through the start of a sampling year were excluded as were firms that were delisted during the same period. The banking sector was also excluded.

An initial sample of 300 firms was obtained from ASX top 300 companies list for 2007. After excluding the firms that did not meet the selection criteria, 80 firms were included in the final sample.

Firm data, including accounting, compensation and governance data, was collected from the firm's annual reports in the Connect4[7] database. Any missing annual reports were obtained from individual firms' websites. The share price data was compiled from Standard & Poor's website. It is collected for the beginning and ending of each sampled firm's fiscal year for the period of 2003 to 2006.

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[7] Connect 4 database is an online database that compile extensive records for Australian firms and contained the top 300 firms marked by market capitalisation.

Experimental design

The model used to test the hypotheses is as follows:

$$\Delta \text{(CEO pay)}_{i,t} = \alpha + \beta_1 \Delta\text{(Firm performance)}_{i,t} + \beta_2\Delta\text{(Firm performance)}_{i,t-1} + \sum\delta c \text{ Control}_{t,c} + \varepsilon_{it}$$

Where $\Delta\text{(CEO pay)}_{it}$ is the change in CEO pay for firm i from one period (t-1) to the next (t), $\Delta\text{(Firm performance)}_{it}$ is the change in the performance of firm i from one period (t-1) to the next (t) and $\Delta\text{(Firm performance)}_{it-1}$ is the change in the performance of firm i from the period t-2 to t-1. Control_{it} are the control variables for firm i in period t. The coefficients, β_1 and β_2 are the pay performance sensitivities which are defined as the changes in the CEO compensation for a given change in firms' performance (Murphy, 1985).

$\Delta\text{(CEO pay)}$ is measured as:

$$\Delta \text{CEO Pay} = \frac{\text{Compensation for current year} - \text{Compensation for prior year}}{\text{Compensation for prior year}}$$

Total CEO compensation can be separated into its individual components including fixed cash (base) salary, annual cash bonus, total equity based pay and total other benefits. The equity based pay includes payment of shares, performance rights and options grants. Consistent with previous studies, the options and performance rights value is taken from the annual reports rather than manually calculated using option pricing models Rankin (2006). Other benefits include superannuation, long leave entitlements, car and housing allowances, health care benefits, loans and other miscellaneous benefits.

Total Shareholder Return (TSR) is adopted as the primary measure of a firm's performance. TSR incorporates the capital gain from changes in the share price and dividends from the share of the firm's profit. This follows the original pay and performance model used by Murphy (1985). He argued that since the

majority of the principals of a firm are shareholders, TSR would be the most appropriate measure of performance .In addition, Stapledon (2004) found that the most common performance hurdles in the Australia ASX 200 firms is TSR. As a robustness check, the hypothesis testing would also use Return on Equity (ROE) or Return on Assets (ROA) as proxy for firm's performance. However, ROA is adopted as the main measure of firm performance rather than TSR in the analysis of the relationship between annual cash bonus and firm performance as cash bonuses are usually based on accounting profit rather than a market based measure (Watts and Zimmerman, 1986)

The control variables included are those factors that could influence the level of CEO compensation. These include the proportion of independent directors on the board (Lawrence and Stapledon, 1999), the extent of CEO ownership of the firm (Jensen et al, 2004), the firm's ownership structure (for example Ke et al, 1999), the experience of the CEO (Mcknight and Tomkins, 2004), the quality of the audit (Clarkson et al, 2005), the size of the firm (for example Core and Guay, 2002) and risk (Lyengar et al, 2005).

If there is a majority of independent directors on the board of directors, they would likely limit the level of pay of executives that is not linked to performance (Clarkson et al 2005), so a negative association between the level of independent directors on the board and changes in fixed salary and total other benefits is expected and a positive association with changes in cash bonus and share based remuneration. Substantial independent block holders (those who own more than 5% of ordinary shares) are also argues to limit the level of CEO pay that is not linked with performance.

A CEO who holds significant shares in the firm would not need the additional incentive to align his/her interest since he/she is also a shareholder (Jensen et al 2004). However, the CEO could influence the level of CEO fixed salary and other benefits compensation. A negative association is expected between CEO ownership and changes in total CEO pay, annual bonus and total equity based pay and a positive association with changes in fixed salary and total other benefits. In addition, is expected that CEO with more experience would be paid more.

Larger firms are argued to be able to employ and retain highly skilled executives with higher pay. Up to an optimal level of risk, there should be a positive association between executive pay and performance. Firms that were audited by the Big Four auditing firms are argued to have lower level of excess CEO pay since their audits are of better quality. Measurement of the independent and control variables is summarised in Table 1.

In determining the proportion of independent directors on the board, the definition of an independent director provided in ASX 'Principles of Corporate Governance and Best Practice Recommendations' is used. In measuring ownership structure, substantial block holders are defined by Corporation Acts Section 9 as a person or party that owns more than 5% of the total voting interest in a firm. Independent block holders are defined as shareholders that are unaffiliated with the firms (Clarkson et al, 2005). Firms with no independent party holding more than 5% of shares is deemed to be a management controlled firm. Traditionally both age and tenure have been used as a proxy for experience, however, only CEO tenure is used as a proxy for experience as a significant proportion of the sample firms do not disclose

CEO age in the annual reports. Size is measured as the natural logarithm of total assets and risk is measured using leverage Lyengar et al, 2005). Audit by one of the 'big four' accounting firms is used as a proxy for audit quality.

Table 1: Measurement of Independent and Control variables

Explanatory variables	Denoted by	Measured as
Firm's performance	TSR	Total shareholder return = ((Ending share price + Dividend) – Beginning share price) / Beginning share price
	ROE	Return on Equity = Net profit/Average equity
	ROA	Return on Assets = Net profit/Average assets
Board composition	IND_DIR	The percentage of the board that is independent. The definition of an independent director is stated in the ASX Guidelines
CEO Ownership	CEO_OWN	The percentage of CEO ordinary shareholding over total ordinary shares.
Independence Shareholders (Block)	IND_BLK	The percentage of ordinary shares held by shareholders who held more than 5% of ordinary shares.
Leverage	D_E	Total liabilities divided by total equity obtained from firm's annual reports
Experience	CEO_TEN	The period that the CEO has served in the position during the sampling period.
Size (total assets)	ASSET	The natural logarithm of total assets in dollar value given in the firm annual reports
Quality of Audit	Big_4	Dummy variable where firms that have their annual reports audited by BIG 4 firms are given value of one and zero otherwise.

Data analysis

The dataset is in the form of panel data in which there are observations of the same 80 sampled firms (cross sectional units) over a period of four years (2003 to 2006). Using panel data allows for both cross sectional and time

series effect in the analysis. The dataset was analysed using E-Views Version 5.1.

Panel Generalised Least Squares (GLS) regression was used to test the hypotheses. In order to make valid statistical inferences, several assumptions need to be met (Gujarati,1995). Tests on the data indicate there are probable violations of the heteroskedasticity and serial correlation assumptions. Panel GLS corrects for both cross sectional heteroskedasticity and serial correlation[8].ensuring that the estimates are best linear unbiased estimators. In addition, the large sample size (n=80) should mitigate any normality problems with the data as the Central Limit Theorem predicts that for larger sample sizes (n>30) the distribution of the sample would approach normal (Gujarati, 1995, p.103.). Additional assumptions need to be made with panel data, as one individual year may be different from other years, and individual firm characteristics may not be captured in the existing independent variables. These unobserved effects would be captured by the error term. If the unobserved effects are correlated with the any of the independent variables, the estimates given from the regression could be biased and inconsistent since the error term is now also correlated with the independent variables (Gujarati, 1995). Consistent with Core et al (1999) the study assumes that the coefficients and intercepts of the firms are constant across time. Nonetheless, to test the validity of this assumption the models are estimated in E Views using fixed effects. The fixed effects estimates include all dummy variables for each firm and year. The redundant fixed effects likelihood ratio indicates that

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[8] GLS incorporates the nature of heteroskedasticity and autocorrelation in the estimation by tramsforming the variables with each firm weight. Ordinary Least Squares (OLS) does not do this. If there is no heteroskedasticity or autocorrelation, the estimates given by OLS and GLS should be the same (Gujarati, 1995)

fixed effects[9] are not necessary to include in the models i.e. the models should not incorporate all dummy variables for each firm and year. However, there are several firms that show significant association with changes in the individual component and total CEO pay. The coefficients for these dummy variables are statistically significant. Often, these firms are the outliers were included in the final regression models. In effect, this is partially controlling for firms that show significant heterogeneity and it also avoids omitted variable bias. However, no year dummies appear to be significant and are not included in the study models.

Results and discussion

Descriptive statistics

Table 2 shows the large range for all components of CEO compensation. Additional analysis of the yearly trends indicates that all components of compensation have increased progressively over the sample period.

Table 2: Descriptive Statistics for Measures of Pay ($AUD)

Variable	Mean	Median	Max	Min.	Std. Dev.
T_PAY	1520617	1064189	6597060	135416	1369580
FIXED SALARY	681185	524062	2298864	12000	467614
BONUS	374215	157520	2720000	-19000	538414
T_EQUITY**	316676	88215	4120209	0	535572
T_OTHER**	280978	96972	4113546	0	500106

** T_EQUITY includes options, performance rights and shares
** T_OTHER includes other benefits and post employment benefits

An analysis of the individual components of executive pay as a proportion of the total pay showed that there was a relative fall in the level of other benefits and fixed pay components, but these falls were cushioned by the increase in

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[9] By including fixed effects, E Views would include dummy variables for each firms and each year. It could be manually done by including dummy variables for each firms and year in ordinary regression as to see their significance. By doing it manually, we could select which companies that show significant homogeneity to be included in the final model.

bonus pay. Total equity-based pay was a consistent percentage of total pay over the sample period.

Table 3 shows the descriptive statistics for the performance variables and the control variables. A large range of values across the sample firms is evident. The statistics for individual sample years, shows average total shareholder return (TSR) fluctuating from year to year, being the highest in 2003 and 2006. The average accounting based measures, return on equity (ROE) and return on assets (ROA) appeared to be more stable throughout the period. For the control variables there was a large range across all variables which reflects the diversity of firms listed on such a comparatively small stock exchange as the Australian Stock Exchange. 65 firms are audited by Big 4 auditors over all years.

Table 3: Descriptive Statistics for Measures of Performance and Control Variables

Performance Variable	Mean	Median	Max	Min.	Std. Dev.
TSR	56.76%	30.28%	1784.48%	-95.64%	155.03%
ROE	13.52%	13.13%	218.57%	-181.93%	31.46%
ROA	6.79%	6.12%	128.58%	-139.23%	17.88%
Control Variables					
CEO_OWN	0.0511	0.0084	0.7658	0	0.1140
CEO_TEN	7.275	5	37	1	6.3876
D_E	1.5054	0.9804	33.8236	-4.0164	2.9869
IND_BLK	0.3771	0.3630	0.8765	0	0.2022
IND_DIR	0.6214	0.6667	1	0	0.2152
ASSET	2705.741	641.83	97938.0	0.2107	9547.122

Multivariate analysis

A summary of the panel GLS regression results are in Table 4.

The first hypothesis examines the association between changes in total CEO pay and change firm's performance over the same and prior period. The results show that the current year change in total shareholder return is positive and significantly associated with changes in CEO total pay. However, there is a negative and significant association between changes in shareholder return for the prior period with a higher coefficient than the coefficient for change in the current year. This means that total CEO pay is more sensitive to changes in firms' performance for the current year rather previous year. The result is inconsistent with Merhebi et al (2006) who found that Australian CEO total pay was more sensitive to changes in firms' performance for the prior year rather than the current year. Using ROE and ROA as the measures of firms' performance produced a similar finding.

The second hypothesis predicted no association between changes in CEO fixed salary with changes in firm's performance over the same period. No significant association was found for all measures of firm performance. This is consistent with the argument that fixed salary is not an effective incentive in mitigating agency problems. As proposed by Holstrom (1979), fixed salary does not entice the CEO to maximize shareholders' wealth since it is constant, often set at the start of employment contract and does not vary with performance of firms.

Table 4 Regression results for CEO Compensation and Firm Performance

Performance variables	Total CEO compensation	Fixed salary	Other benefits	Cash Bonus	Share-based compensation
Δ TSR $_t$	16.3289 (20.334***)	-1.2295 (-1.3922)	-4.4166 (-0.9457)		30.9565 (4.6307***)
Δ (TSR) $_{t-1}$	-15.0466 (-92.1856***)				-27.1298 (-12.1059***)
Δ ROA $_t$				36.4430 (2.9092***)	
Control variables					
CEO OWNERSHIP	-31.3293 (-2.2126**)	-12.3121 (-1.0958)	-505.7896 (-2.1813**)	186.7944 (2.8997***)	-234.1447 (-4.0167***)
CEO TENURE	1.4645 (10.3024***)	0.2725 (5.7179***)	-4.3127 (-2.1273**)	-4.3268 (-5.7972***)	-3.2312 (-2.8809***)
IND BLOCKHOLDINGS	0.1085 (1.8063**)	-0.0429 (-1.1145)	0.3584 (0.5591)	-0.0363 (-0.3298)	-1.3763 (3.6912***)
IND DIRECTORS	-3.9177 (16.0956***)	-15.2629 (-4.3290***)	-534.1157 (-2.8544***)	35.9362 (4.8895***)	147.0590 (7.7803***)
BIG 4	-5.1864 (-0.7918)	-9.8698 (-7.7416***)	-45.6253 (-2.5396)	3.7010 (0.5220)	87.8375 (357.2867***)
SIZE (ASSET)	-2.9718 (-7.6581***)	1.2755 (3.3734***)	38.8980 (2.0788**)	1.2691 (0.9702)	-14.2018 (-3.4325***)
LEVERAGE (D/E)	-0.0340 (-0.0746)	-0.64331 (-3.1294***)	6.0499 (0.7470)	-1.1651 (-2.2730**)	-1.6705 (-35.3082***)
Adjusted R-squared	0.4867	0.1312	0.1805	0.2136	0.4518
F-Statistics	13.2484	3.9298	4.9640	3.7673	8.4851
Significance	0.0000	0.0000	0.0000	0.0000	0.0000
DWTS	2.2077	2.1159	2.1735	2.2325	1.7580

*** significant at 1%
** significant at 5%
* significant at 10%

It is expected that there should not be any association between changes in CEO total other benefits with changes in firm's performance. Total other benefits include perquisites that often cannot be linked directly to performance or mandatory benefits such as superannuation (Stapledon, 2004). The results support this contention for the measure of shareholders return, but the accounting performance measure, change in ROA is shown to have a positive significant association with change in CEO total other benefits. It could be

argued that the CEO that demonstrates a strong accounting profit performance can demand more additional perquisites.

Hypothesis four predicts a positive association between changes in CEO annual cash bonus for the current period with corresponding changes in firms' performance. It does not include lagged performance for the prior period since annual cash bonus is usually based on short term performance measure rather than long term (Clarkson et al, 2005). Consistent with Core et al (1999) the study adopts changes in Return on Assets (ROA) as primary measure of firms' performance since annual cash bonus is normally based on accounting measure rather than market based measure. The hypothesis is supported and is consistent with Clarkson et al (2005) and Rankin (2006). Similar results were found using ROE as the measure of performance.

The final hypothesis tests the prediction that current change in the level of CEO total equity based pay (inclusive of shares, options and performance rights) is positively associated with change in total shareholder return for the current and the prior period. The change in total equity based pay is positive and significantly associated with a change in total shareholder return for the current period. However, it is negative and significantly associated with a change in TSR for the prior period. This result has two possible explanations. Firstly, as the yearly average of shareholders return indicated, there was a substantial fluctuation from year to year. If equity-based compensation is increasing and shareholder return decreasing from an earlier period, then such a result could be expected despite fixed effects indicating there is no significant year effect. Secondly, if increased equity-based compensation is used to induce the CEO to undertake riskier investments as a result of lack-

lustre performance in the previous period in order to provide a higher return to shareholders in the future, then the positive association between the two variables for the current period indicates the effectiveness of equity-based pay as a means of aligning manager and shareholder interests.

In addition, it is expected that changes in shareholder's return are more sensitive to changes in total equity based pay rather than to changes in other components of CEO pay. Equity based pay is usually granted based on market performance hurdles, often total shareholder return (Stapledon, 2004). Thus, it is argued that the coefficient of association between change in TSR and change in total equity-based pay are larger than that for the other components of pay. Testing supported this assertion.

Similar findings were found using ROE as the measure of firms' performance.

In addition to testing the hypotheses, several control variables were included in the analysis because of their argued effect on the components of CEO compensation. If a CEO has ownership in the firm, then it might be expected that they would require less incentives to align their interests with those of other shareholders (Jensen et al, 2004), and so may have lower pay. The results generally support this proposition. CEO tenure is also argued to impact on the relationship between pay and performance. McKnight and Tomkins (2004) argue that the longer the CEO is in the firm, the more likely they are to receive higher compensation. The results show support for this for total pay and fixed salary, but there is a significant negative association between CEO tenure and changes in cash bonus, equity-based compensation and other benefits. One explanation is that over their tenure, the CEO has

accumulated substantial share ownership, and so does not need additional incentives[10].

Other measures, specifically independent block holdings, independent directors on the board of directors and quality of audit were also included as control variables. It is expected that presence of independent block holders would be more likely to demand performance based compensation for the CEO, and so would be positively associated with changes in performance based measures of compensation. This was not supported.

Similar arguments also apply to the presence of independent directors on the board of directors. It is expected that the higher the proportion of independent directors on the board the lower the level of total CEO pay (Rankin, 2006). The results support this expectation, and are also consistent with Core et al (1999), Clarkson et al (2005) and Rankin (2006). For the changes in individual components of CEO pay, as expected, significant positive associations were found between changes in total equity based pay and bonus. Firms with a higher proportion of independent directors on the board are more likely to have performance based components in the structure of CEO remuneration.

No significant association between changes in total CEO pay and quality of audit were found which is consistent with Clarkson et al (2005). However, there is a significant negative association between quality of audit and changes in fixed salary and total other benefits and significant positive association with changes in equity-based pay. This suggests that the higher the audit quality, the more likely there is to be longer term performance based remuneration and lower fixed salary and other benefits.

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[10] The correlation matrix indicates that CEO tenure is positively correlated with the level of CEO ownership.

Firm characteristics are also included as control variables, namely size proxied by the natural logarithm of firms total assets and risk proxied by leverage. It is expected that the bigger the firm is the higher would be the level of total CEO pay. However, the study found a negative but significant association between size and changes in total CEO compensation, in addition to changes in total equity based pay. This is inconsistent with other studies (Rankin, 2006, Merhebi et al, 2005, Core et al, 1999, McKnight and Tomkins, 1999 and Coulton and Taylor, 2002). This could be due to the fact that by scaling the changes in total CEO pay with CEO for the prior period, the study has removed significant size effect. However, positive and significant associations are found between firms size and changes in fixed salary and total other benefits. It could be argued that since these components usually are not performance based and thus are certain, large firms could offer a higher salary to retain the CEO.

Risk could influence CEO pay in both directions, where there is an optimal point beyond which excessive risks would reduce the level of CEO pay, but up to that point risk taking is encouraged (Banker and Datar, 1989). Negative and significant associations are found between changes in fixed salary, bonus and total equity based pay. Although CEO compensation, especially options, are offered as a solution to risk aversion, excessive risk could mean a higher probability of financial distress and the CEO may be penalised though reduction in some remuneration components. It is also possible that leverage is not an appropriate proxy for risk.

Conclusions

Overall, this study found that CEO remuneration is an effective tool in resolving the agency problems between the CEO and the shareholders. Performance-based CEO compensation packages have a positive relationship to firm performance, aligning the interests of CEOs and shareholders. Equity based remuneration is shown to be a superior form of performance based compensation in achieving this objective. The results also suggest that stronger corporate governance promotes greater performance based remuneration, that CEOs with shares in the company are more likely to be paid accounting based bonuses, than other forms of compensation, and that the greater the ownership the lower the compensation, and that longer serving CEOs are more likely to have a higher fixed salary and overall compensation.

The empirical evidence obtained in this study does not support the public criticism levelled at the high level of CEO compensation, but rather suggests that CEOs are rewarded deservedly for an increase in firm performance, rather than on a random basis.

Whilst this study has gone some way to resolve the anomalies of prior studies on Australian firms, there are many factors affecting the relationship between CEO remuneration and performance which cannot be included in all studies. One limitation of the study is value of CEO options and performance rights remuneration are obtained from the firms' annual reports rather than manually calculated. This represents the cost of equity-based remuneration to the shareholder, rather than the value to the CEO. Thus the results can only be viewed from the shareholders perspective. Further, the performance

measures used do not adequately capture the structure of equity based compensation. Whilst shares granted to CEO's may be based on past performance, option grants and rights, although granted on prior performance, could be structured to tie CEO compensation to future firm performance.

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3.3 Earnings Management

THE MANAGERS' STRATEGIC CHOICE FOR EARNINGS MANAGEMENT: REAL AND/OR DISCRETIONARY ACCRUALS-BASED EARNINGS MANAGEMENT

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Abstract:

This study examines whether managers use real activities and/or discretionary accruals as substitutes or complements in managing earnings, and tests the order which managers may strategically utilize in earnings management decisions. Our results shows that managers determine real management(RM) and discretionary accruals(DM) simultaneously, and that the factors determining DM are correlated with RM in opposite direction. The results of this study will provide an additional insight on RM to related regulators and users of the firm's financial information.

Key Words: real activities management, earnings management strategy. earnings management.

Ⅰ. Introduction

Studies on managers' earnings management have been performed for a long time. Substantial prior literatures have provided evidences that managers frequently use discretionary accruals to manage earnings.(Dechow and Sweeney 1995, Jones 1991, Kothari, Leone and Wasley 2005).

Discretionary accruals have been used frequently in managing earnings because discretionary accruals earnings management(DM) can be easily utilized relative to others earnings management tools without direct cash flow consequences. Also, managers can manage earnings using real activities such as sales, production, and discretionary expenses.(Healy and Wahlen 1999, Dechow and Skinner 2000, Fundenberg and Tirole 1995).

Real activity earnings management(RM) will affect directly cash flows because

additional costs may incur. For example, temporary sales increase through price discounts, which is one of RM, will decrease cash flows eventually. It is because the increased sales volumes as a result of the discounts are likely to disappear when the firm increases the sales price in later periods. Also, another way to temporarily boost sales for increasing earnings is channel stuffing, which may increase accounts receivables. These kinds of sales management activities will lead to lower cash flows in current period given the normal sales levels.

Another example for RM is overproduction. Firms may produce more than necessary in order to increase earnings. That is, when managers produce more units, they can spread the fixed overhead costs over a larger number of units, thus lowering fixed costs per unit. As long as the reduction in fixed costs per unit is not offset by any increase in marginal cost per unit, total cost per unit will decline. This will decrease reported cost of goods sold(COGS), and the firm can report higher operating margins. However, the firm may still incur other production and holding costs, which will lead to higher annual production costs relative to sales and lower cash flows from operation given sales levels.

Discretionary expenditures include R&D, advertising expenses and SG&A expenses. Managers can increase current period earnings by reducing such expenses. If managers reduce such discretionary expenditures, these will be lower given sales levels. Also if such expenditures have been paid in cash, it could lead to higher current period cash flows.

The focus of this paper is to find whether RM and DM are performed simultaneously or sequentially in managing earnings. Also, we peruse to examine whether factors, which are known to influence DM, will affect managers' RM.

This study is important for two reasons. First, as mentioned by Fields, Lys and Vincent(2001), examining only one earnings management techniques at one time cannot explain the overall effect of earnings management activities. In particular, If managers use RM and DM as a substitute, examining either type of management in

isolation cannot lead to definitive conclusions. Further managers are more likely to use RM or DM as substitute(or combination). Second, factors deterring DM are more likely to lead to RM since this will be associated with managers' accounting choices.

This study will, first of all, test whether RM or DM are determined sequentiality or simultaneously. Also, we will define factors which influence RM or DM to test for whether managers' decisions for DM affect RM decisions, and then we will test the association between these factors and RM(or DM). In addition, this study will examine what will happen in quarterly bases.

In general, DM doesn't affect cash flows directly. However, it is more likely restricted by the rigidity of accounting standards or interested parties who are affected by firms' accounting results. Thus, we adopt Big4 as one of the major restricting factors for DM in our model. This is because prior literatures provide evidence that Big4 is able to restrict DM(Becker, DeFond, Jiambalvo, and Subramanyam, 1998; Francis, Maydew, and Sparks, 1999) and Big4 are more strict in auditing than Non-Big4.

Second factor for DM is leverage ratio. Managers DM may be constrained because interest parties may require more severe audit process for high leverage firms.

Also, additional obvious costs associated with DM is that the abnormal accruals are mechanically reversed in the short-run, reducing earnings in the next period. That is, if managers ability to increase earnings upward in a current period is constrained by DM activities in previous periods.

The last factor constraining DM is the probability to avoid reported losses. IF firms avoided reported losses through DM, they have to report losses in case that the reported earnings is corrected in the following auditing processes.

In addition, for RM we identify such controlling variables. The first controlling variable is a modified version of Altman's K-score(Altman 1996). We use Altman's K-score in our model because firms close to bankruptcy status are more sensitive to RM, which will affect cash flows. Second controlling variable is equipment volume(divided by sales). Manufacturing firms' managers can decrease cost of sales

through over-production without incurring additional expenses. Third controlling variable is a firm's sales ratio to the average sales of industry. The ratio represent the leading position of the firm in the industry, which firms is likely to be constrained by RM since pushing sales for boosting earnings may lead to a considerable level of accounting receivables. Thus, DM or RM may affected by such each proxies, DM are expected to have negative(positive) relation with factors having positive(negative) association with RM.

In addition, some existing literatures analyzed RM and provided evidence that DM on based on the discretionary accruals was decreased with DM changed to RM based on real activity management.(Cohen et al. 2008; Zang 2008)

Korean companies are rely on DM to raise reported earnings or avoid losses in the first 3 quarters of a year and upward DM in the previous quarters tend to be reversed in the fourth quarter. However, there isn't any study testing how RM are performed in quarterly bases. We expect that managers are likely to refrain from using DM to raise earnings in the fourth quarter if they have used DM in the previous 3 quarters of a year. Thus, managers have incentive to report higher earnings in the first 3 previous quarters using DM, which don't accompany with costs. However, they may do relatively more RM in the last quarter since their ability for using DM is now constrained.

Many earnings management studies have investigated DM in various ways, but only a few recent studies used RM. Moreover, this paper may be the first study testing a relation between DM and RM especially on quarterly bases.

The remaining sections of this study are organized as follows. Section 2 presents the related literatures. Section 3 sets hypothesis, describes the empirical specification and sample. Section 4 presents the empirical results, and finally section 5 provides the conclusion of this study.

910

2. Related literature

Managers can use various means for earnings management. Specifically, they can use both discretionary accruals and real activities. Existing literatures provide evidence that managers use discretionary accruals more frequently in managing earnings.

DeFond•Jiambalvo(1994)와 Sweeney(1994) studied the accounting choices and earnings management for firms violating debt covenants. DeFond•Jiambalvo(1994) indicated that managers used discretionary accruals to increase reported earnings in preventing a debt contract violation. Sweeney(1994) also found an evidence that firms were increasing cashflows and earnings to prevent debt contracts violation. Guenther(1994) suggested that managers were manipulating earnings by using discretionary accruals to cut down the corporation tax when tax rates are increasing.

Subramanyam(1996) examined if stock market could price discretionary accruals. He provided evidence on pervasive income smoothing, which improves the persistence and predictability of reported earnings. He also indicated that discretionary accruals help in predicting future profitability and dividend changes.

In addition, Schipper(1991) asserted that managers have incentives managing earnings using discretionary accruals when they wanted to low earnings.

Existing literatures suggested that mangers have used more discretionary accruals for earnings management. However, there are a few studies using real activity as a tool for earnings management. Presently, studies based on RM have shown that mangers may use acceleration of sales or increase production level as a tool for RM methods available to mangers. (Shipper 1991, Healy and Wahlen 1999, Dechow and Skinner 2000, Thomas and Zhang 2002, Roychowdhury 2006)

In fact, mangers are likely to manage earnings by delaying or maintaining discretionary expenditures. That is, they could decrease discretionary expenditures

to meet earnings target or to increase reported earnings.(Baber et al. 1991, Bushee 1998, Dechow and Sloan 1991) Kasznik(1999) also provide evidence that research and development costs(R&D) or advertising expenditures are abnormally lower in the firms whose real earnings is lower than their voluntarily disclosed earnings

Specifically, Roychowdhury(2006) is to develop empirical method to detect real activity management. Also, this paper examine cash flow from operations(CFO), production costs, and discretionary expenses, variables that should capture the effect of real operations better than accruals. Next, this study use these measures to detect real activities management around the zero earnings threshold. He find evidence consistent with firms trying to avoid losses by offering price discounts to temporarily increase sales, engaging in overproduction to lower cost of goods sold(COGS), and reducing discretionary expenditures aggressively to improve margins.

Zang(2007) study whether managers use real and accrual manipulations as substitutes in managing earnings, and study the order that managers make these decisions. Zang(2007) find that managers determine real manipulation before accrual manipulation. This paper use an empirical model that captures the sequentiality of real and accrual manipulations to test the tradeoffs between the two. The results of the broad sample tests are consistent with managers using real and accrual manipulations as substitutes. However, in a small sample test examining firms subject to securities class action lawsuits, Zang(2007) examine whether real and accrual manipulations change over time with changes in litigation risk.

Cohen et al.(2008) document that accrual-based earnings management increased steadily from 1987 until the passage of the Sarbanes-Oxley Act(SOX) in 2002, followed by a significant decline after the passage of SOX. Conversely, the level of real earnings management activities declined prior to SOX and increased significantly after the passage of SOX, suggesting that firms switched from accrual-based to real earnings management methods after the passage of SOX. They find that firms that just achieved important earnings benchmarks used less accruals and

more real earnings management after SOX when compared to similar firms before SOX. In addition, they provides evidence that the increases in accrual-based earnings management in the period preceding SOX were concurrent with increases in equity-based compensation.

By existing literature, managers are able to use accruals or real activity to managing earnings of the firm, specifically. Also, they provide that real activity management increase more than accrual-based earnings management after the passage of SOX.

This study differs from previous literatures in the following respects. First, this paper tests whether RM or DM are determined sequentially or simultaneously and whether those decisions are different depending on quarters. Second, we identified several factors, which may affect DM and RM differently and the relation between DM and RM.

The results of this study will provide a insight on RM as a tool means for managing earnings to related regulators and users of the firms' financial information

3. Hypotheses and Samples description

3.1 Hypotheses

Managers are likely to use various methods in managing earnings. Specifically, managers often have used discretionary accruals as a method managing earnings(Dechow and Sweeney 1995, Jones 1991, Kothari, Leone and Wasley 2005). Mangers use discretionary accruals management(DM) more easily because DM does not have a direct cash flow effect. On the other hand, it is likely that DM could be detected more easily by serious auditors.

Also, managers can use sales, production, discretionary expenditures in managing earnings.(Healy and Wahlen 1999, Dechow and Skinner 2000, Fundenberg and Tirole 1995). Real activity management(RM) is less likely to catch by auditors although it affect directly cash flows.

Thus, it is not clear which method managers prefer to use in managing earnings. Manager may choose earnings management methods strategically. First of all, if DM and RM are determined simultaneously/sequentially, earnings management both DM and RM may be used simultaneously or sequentially. Thus, this study set up a following research hypothesis to examine whether DM and RM could be used simultaneously or sequentially

Hy   Hypothesis1:

Discretionary accrual-based earnings management(DM) and real activity earnings management(RM) will be used simultaneously.

In addition, earnings management for RM(or DM) could be affected by the following factors. First, firms audited by Big4 audit firm may be constrained in DM. DM is more likely constrained than RM because such DM may be revealed if the firms are audited through more stricter auditing process, which will be performed usually by Big4 audit firms. Thus, firms audited by Big4 will prefer RM to DM so that their earnings management is not constrained. Second, firms used DM in previous period may be constrained in using DM in next period since DM tend to be revered shortly. In this case managers are more likely to utilize RM.

Further, earnings management for DM may be affected by following factors for RM. Factors for RM are firm's financial health, the percentage of the company's sales to the total sales of its industry, and companies' leadership in the industry. These factors will affect managing earnings for DM. Thus, we set up following research hypothesis to test whether factors for DM(or RM) will affect RM(or DM).

Hypothesis2:
Firms audited by Big4 will manage earnings by using real activities(RM) rather than discretionary accruals(DM).

Hypothesis3:
Firms having larger abnormal accruals at in the previous period will manage earnings using real activities(RM) rather than discretionary accruals(DM).

Hypothesis4: Firms having high financial health index, high ratio of the company's sales to the total sales of its industry are more likely to manage earnings by using discretionary accruals(DM) rather than real activities(RM).

3.2 Research Design

This paper estimate the discretionary accruals using adjust Jones(1991, 1995) model and measurement of real activity management using Roychowdhury(2005) model.

We set up the following simultaneous equation system to test the research hypothesis.

Equation model 1 is the empirical parallel of model developed under the assumption of simultaneity of RM and DM decisions. Since RM and DM are assumed endogenous, we estimate equation system 1 using two-stage least squares. Equation 1 can be identified because the cost determinants in the two equations differ. So, we will test the simultaneity/sequentiality of RM and DM with the Hausman test.

Model 1 : $DM = a_0 + a_1 RM_t + a_2 Big4_t + a_3 AbnDa_{t-1} + a_4 NP_t + a_5 LEV_t + a_6 SIZE_{t-1}$
$$+ a_7 DLOSS + a_8\text{-}a_{12} YR + e$$

$RM = a_0 + a_1 DM_t + a_2 DK\_SCORE_t + a_3 ISLE\_S_t + a_4 NP_t + a_5 LEV_t$
$$+ a_6 SIZE_{t-1} + a_7 DLOSS_t + a_8\text{-}a_{12} YR + e$$

Definition of variables:

DM: Discretionary accruals estimated by adjusted Jones model(1991, 1995)

RM: measurement of real activity management, that is abnormal CFO

Big4: Dummy variable equals 1 if the firm's auditor is a Big4 , otherwise 0

LEV: debt ratio, which is current liability / current asset

NP: Dummy variable equals 1 if reported earnings before managing earnings is positive, otherwise 0 .

$AbnDA_{t-1}$: Discretionary accruals in the previous year

DK_SCORE: Dummy variable that equal 1 if the firm's DK_SCORE is less than median of full sample's K_SCORE, and otherwise 0

ISLE_S: The percentage of the company's sales to the total sales of its industry.

SIZE: Ln(total asset in the previous period)

DLOSS: Dummy variable equals 1 if reported earnings is negative, otherwise 0

The simultaneous equation 1 is constructed to test whether managers determine RM and DM simultaneously or sequentially. If DM and RM are simultaneous, in the DM equation, coefficient of RM may be not significant. On the other hand, if RM is determined before DM, there is no feedback from DM to RM, which means RM should be orthogonal to the error term of the DM equation. In the DM equation, the coefficient of RM will be significant statistically.

IF the Hausman test rejects simultaneity, we further test our research hypotheses using the following recursive simultaneous equation system which captures the sequentially of RM and DM.

Model 2 : $RM(\text{or } DM) = a_0 + a_1 Big4_t + a_2 AbnDA_{t-1} + a_3 DK\_SCORE_t + a_4 ISLE\_S_t + a_5 NP_t$

$$+ a_6 LEV_t + a_7 SIZE_{t-1} + a_8 DLOSS_t + a_9\text{-}a_{13} YR + e$$

Model 2 is set up when RM is predetermined by the cost of RM and DM. On the other hand, the DM equation in the research mode 2 has RM as an independent variable. Under the assumption of sequentially, when managers determine the level of DM, they observe the realized RM. Hence, the RM variable in the DM equation is exogenous.

RM may be affected by factors for RM and DM, DM may be positively(+) correlated with the cost determinants of DM and RM may be negatively(-) with their own factors determinants.

In the research model, dependent variable DM is discretionary accruals estimated using adjusted Jones(1991, 1995). and RM is the measurement of real activity management estimated using Roychowdhury(2006) model. For DM, we identify four such proxies.

The first controlling variable, Big4 is dummy variable that equals 1 if the firm's auditor is one of the Big4, otherwise 0. We include Big4 in the model to test whether

managers manage earnings using real activity management rather than using discretionary accruals because earnings management for DM activity is more likely to constrain comparing to RM activity by auditor.

If managers may manage earnings using RM, coefficient of Big4 will be positively(+) significant in the RM equation, and negatively significant in the DM equation.

Variable LEV equal current liability divided current asset. If auditors may audit severely for firms having high debt ratio, such firm's managers are more likely to manage earnings using RM rather than DM.

Thus, coefficient of LEV will be positive correlation with RM and negative correlation with DM. Dummy variable, NP equal 1 if earnings after earnings manipulation is positive and earnings before earnings manipulation is negative, otherwise 0. If firms which had loss before earnings management use much more RM to avoid loss, NP will be significantly positive correlation with RM and negative correlation with DM.

DA is discretionary accruals in the previous period. If mangers used discretionary accruals previous period, they will be constrained earnings management using DM in the current period. Thus we expect that coefficient of DA will be positive significantly in the RM model and will be negative significantly in the DM model.

Other variables are DK_SCORE, and ISLE_S. DK_SCORE is dummy variable that equal 1 if the firm's DK_SCORE is less than median of full sample's K_SCORE, and otherwise 0. Thus, DK_SCORE will be negative correlation with RM but will be positive correlation with DM. Lastly ISLE_S is ratio of the company's sales to the total sales of its industry.

Within an industry, different firms likely face different levels of competition and therefore, different pressure when deviation from optimal business strategy. Therefore, managers in market leader firms may perceive RM as less costly since the erosion to their firms' competitive advantage is relatively small. Thus, we expect that ISLE_S is negative correlation with RM and positive correlation with DM. Loss is dummy variable to control negative earnings effect and other control variable include

917

firm' size, measured as the log value of total asset previous period.

In this paper, discretionary accruals is estimated with the following model(adjusted Jones 1991, 1995), which is run cross-sectionals for each industry-year.

$$TA_{it}/A_{it-1} = \alpha(1/A_{it-1}) + \beta_1(\triangle REV_{it}/A_{it-1}) + \beta_2(PPE_{it}/A_{it-1}) + \varepsilon_{it} \quad (1)$$

$$DA_{it} = TA_{it}/A_{it-1} - [a(1/A_{it-1}) + \hat{\beta}_1(\triangle REV_{it}/A_{it-1} - \triangle REC_{it}/A_{it-1}) + \hat{\beta}_2(PPE_{it}/A_{it-1})] \quad (2)$$

where, TA_{it} = Total accruals at the end of period t

$\triangle REV_{it}$ = Change of salesat the end of period t

$\triangle REC_{it}$ = Change of receivable at the end of period t

PPE_{it} = Property, plant and equipment at the end of period t

A_{it-1} = Total asset at the beginning of period t

ε_{it} = error term at the end of period t

We estimate the measurement for real activity using Roychowdhury(2006) model. Roychowdhury(2006) provided that cash flow, production cost and discretionary expense may be classified into normal and abnormal. Abnormal real activities will be managed discretionally by managers. Thus, we run the following cross-sectional regression equations for every industry and year to estimate abnormal measurements each other.

Following Dechow et al.(1998), we express normal cash flow from operation as a linear function of sales and change in sales in the current period.

$$CFO_{it}/A_{it-1} = a_0 + a_1(S_{it}/A_{it-1}) + a_2(\triangle S_{it}/A_{it-1}) + e$$

$$ABNCFO_{it} = CFO_{it}/A_{it-1} - [a_0 + a_1(S_{it}/A_{it-1}) + a_2(\triangle S_{it}/A_{it-1})] + e$$

where, A_{it-1}: The total assets at the beginning of period t

CFO: Cash flow from operations at the end of period t

ABNCFO: Abnormal cash flow at the end of period t

S: The sales during period t

$\triangle S$: $S_t - S_{t-1}$

Where A is the total assets at the beginning of the period t, S is the sales during period t. And $\triangle S$ is estimated sales at the end of period t minus sales at the beginning of period t. ABNCFO is the actual CFO minus the normal CFO calculated using estimated coefficients from the corresponding industry-year model and the

918

firm-year's sales and lagged assets.

3.3 Samples description

 The periods covered in our analysis are 2001-2006, and <Table 3-1> summarizes the sample selection procedure. Our initial sample consists of 2,562 listed on the Korea Stock Exchange. From this totals, we exclude 496 financial institutions because of the unique procedures required to estimate discretionary accruals or real activities management for these firms. We use the remaining 1,842 observations for this analysis.

\<Table 3-1\> Samples description

			firm-years
Total listing manufacture firms (2001년~2006년)			2,562
Can't find Stock price and research related financial data			(152)
Can't find research related audit company			**(15)**
Excluded samples because of Outlier abnormal earnings			**(72)**
Can't estimate discretionary accruals and real activities management			**(496)**
Samples yearly		2001	287
		2002	291
		2003	306
		2004	300
		2005	323
		2006	335
Final samples			**1,842**

4. Empirical Results

4.1 Descriptive statistics and Correlation

 <Table 4-1> provides descriptive statistics on the main variables for this analysis. Panel 1 of <Table 4-1> reports that maximize value of RM is 0.304, minimize value is -0.2991 and median is 0.0008. Median for DM is 0.0030 and mean is -0.001.

Specifically, Median for DM is bigger than median for RM. These statistics is to provide that managers are more likely to manage DM comparing to RM in Korea.

Panel 2 of <Table 4-1> provide that coefficient of correlation between RM and DM is significant negatively at 1% level. Specifically, RM is positively correlation with the factors of DM(Big4 and AbnDA$_{t-1}$). Also, DM is positively correlation with the DK_SCORE which is factor for RM. Incentive variables, NP, is positively correlation with both RM and DM.

<Table4-1> Descriptive Statistics and Correlation on the Main Variables

Panel 1: Descriptive Statistics

기술통계량

variable	n	mean	std	min	median	max
RM		0.0005	0.083	-0.2991	0.0008	0.304
DM		-0.001	0.093	-0.344	0.0030	0.328
Big4		0.437	0.496	0	0.000	1
Abnda $_{t-1}$		-0.0007	0.203	-1.030	0.0003	0.959
DK_SCORE	1,842	0.284	0.497	0	0.000	1
ISLE_S		1.058	1.758	0.001	0.589	22.865
NP		0.145	0.353	0	0.000	1
LEV		1.051	9.228	0.034	0.7277	25.232
SIZE		19.271	1.441	16.161	19.021	24.874

Panel 2: Correlation on the Main Variables

Correlation

variable	DM	Big4	AbnDA$_{t-1}$	DK_SCORE	ISLE_S	NP1	LEV	SIZE
RM	-0.340***	0.097***	0.198***	-0.0004***	0.164	0.241***	-0.022	0.241***
DM		0.021	-0.361***	0.053***	0.025	0.227***	-0.074***	0.040**
Big4			0.0265	0.009	0.126***	0.049***	-0.010	0.216***
Abnda$_{t-1}$				-0.006	0.002	-0.073***	0.007	0.010
DK_SCORE					-0.029	-0.017	-0.337***	-0.057***
ISLE_S						0.098	-0.005	0.591***
NP							-0.006	0.139***
LEV								0.015

Footnote 1) *, **, *** are significant at the 10%, 5%, 1% level , respectively

<Definition of variables>

RM: Real activity management, that is abnormal CFO estimated using Roychowdhury(2006)

DM: discretionary accruals estimated using adjusted Jones model(1991, 1995)

BIG4: Dummy variable if firm which is audited BIG4 audit company is 1, otherwise 0.

Abnda$_{t-1}$: Abnormal accruals,

DK_SCORE: Dummy variable that equal 1 if the firm's K_SCORE is less than median of full sample's K_SCORE, and otherwise 0

ISLE_S: The percentage of the company's sales to the total sales of its industry.

NP1: Dummy variable, that is, it is 1 if reported earnings before managing earnings is positive, otherwise 0 .

LEV: Current debt/current asset

Panel 2 of <Table 4-1> provide that coefficient of correlation between RM and DM is significant negatively at 1% level. Specifically, RM is positively correlation with the factors of DM(Big4 and $AbnDA_{t-1}$). Also, DM is positively correlation with the DK_SCORE which is factor for RM. Incentive variables, NP, is positively correlation with both RM and DM.

<Table 4-2> provides the means for main variables to compare to whether earnings management is different RM from DM base on firm's characteristics.

In the case for firms which are possibility to avoid reported losses, mean of RM is 0.008 and DM is 0.009. However, firms which report losses are -0.028(mean of RM) and -0.043(mean of DM). Also, means of RM and DM for firms which have been audited by Big4 audit company are 0.008 and -0.001. Means of RM and DM for firms which have been audited by Non-Big4 audit company are 0.008 and -0.001.

<Table 4-2> Comparison of RM and DM based on Firm's Characteristics

	DM	RM
Avoidable firms reported losses	0.009	0.008
Reported losses	-0.043	-0.028
Audited by Big4 audit firm	-0.001	0.008
Audited by Non-Big4 audit firm	0.001	0.002

<Table 4-3> provide comparing to earnings management between RM and DM base on industries.

<Table 4-3> Comparison of RM and DM base on classified industries

Classified industries	DM	RM
Food and Kindred Products	0.0022	-0.0018
Textiles, Except Sewn Wearing	0.0016	0.0073
Wood and Paper Except Furniture	0.0002	0.0081
Chemical and Chemical Production	0.0051	0.0061
Rubber and Plastic Production	-0.0059	-0.0104
Other Non-metallic Mineral	-0.0047	0.0035
Basic Metals	-0.0048	-0.0032
Fabricated Metal Production	0.0095	-0.0009
Other Machinery and Equipment	-0.0084	0.0194
Other Transport Equipment	0.0021	0.0083
Electronic Components	0.0059	0.0078
Medical, Precision and 광학	-0.0079	-0.0000
Sale of Motor Vehicles and Motorcycles	0.0027	0.0128
Retail Trade, Except Motor Vehicles	-0.0086	-0.0021
Others	-0.0041	0.0093

4.3 Hypotheses Analysis

4.3.1 Analysis results for amounts of earnings management

To test whether managers make RM and DM decisions simultaneously or sequentially, we conduct the Hausman test by regressing DM on the exogenous variables(the factors of DM, incentives, and control variables), the instrument for RM(the predicted value from the first stage regression), and the actual RM. If RM is determined after DM, then the coefficient on the instrumental variable of RM should equal zero. <Table 4-4> reports the results of the Hausman tests for Model 1. Hausman tests reject the exogeneity of RM in the DM regressions(with p-value ranging from 0.001). Also, Hausman test reject the exogeneity of DM in the RM equations. Which means DM(or RM) is correlated with RM(or DM)'s error term. These results indicate that RM and DM are determined simultaneously.

<Table 4-4> Hausman Test for Simultaneity versus Sequentially of RM and/or DM

Model(n=1,842)	RM	DM
Endogenous variables:	Coefficient(p-value)	Coefficient(p-value)
DM	-0.075(0.001)	
RM		-0.078(0.0002)

P_DM	-0.887(0.001)	
P_RM		-0.962(0.0001)
Hausman test		
1st-stage adj. R^2(%)	56.64	54.04
2st-stage adj. R^2(%)	70.46	59.23
p-value for Hausman stat.	0.0001	0.0001

Definition of Variables:

DM: discretionary accruals

RM: abnormal CFO

P_DM or P_RM: the predicted value form the first-stage regression

Given the finding of the simultaneously of RM and DM, we use the recursive regressive Model 2 to test H2-H4. The results are reported in <Table 4-5>.

In the <Table 4-5>, Big4 and Abnda$_{t-1}$ are factors for DM management activity, DK_SCORE and ISLE_S are factors for RM management activity.

H2 predicts that in both models, while Big4 is negatively related with DM, positively related with RM. Consistent with H2, <Table 4-5> shows that RM is significant positively related with Big4 at 10% level. However, DM is insignificant related with Big4, suggesting that firms are reluctant to manager earnings using DM when firms have audited by Big4 audit firm. Also, tests of H3 are indicated by the coefficient estimates for Abnda$_{t-1}$ in both models. If firms used DM activity much more in previous year, they may be constrained using DM in next year. Thus, we expected that managers are more likely to manage earnings using RM activity. Abnda$_{t-1}$ in RM model is significant positively at 1% level as coefficient (t-value) is 0.092(12.81). While in DM model is significant negatively at 1% as coefficient(t-value) is -0.166(-21.63). The results are to support H3.

One of the factors for RM, DK_SCORE, is dummy variable that equals one if the firm's K_ SCORE is smaller than median of full sample's K_ SCORE and zero otherwise. DK_ SCORE in RM model is significant negatively at 1% level as coefficient(t-value) is -0.003(11.69). While in DM model is significant negatively at 1% as coefficient(t-value) is 0.003(10.26). The results are to support H4.

Also, NP and LEV as incentive variables are expected positive coefficient. In the

RM model, NP and LEV are significant positively at 1%, 5% level respectively. In the DM model, while NP is significant positively at 1%, LEV is insignificant. These results indicate that both RM and DM are negatively correlated with their own factors although ISLE_S in the RM model and Big4 in the DM model are insignificant. Also, RM(or DM) is positively correlated with the factors of DM(or RM) although ISLE_S in the DM model is insignificant. Specifically, firms which are able to avoid reported losses by earnings management are likely to using both RM and DM to manage earnings.

<Table 4-5> Test of the factors between RM and DM management

Model(n=1,842)	Dependence variable	
	RM	DM
Intercept	-0.125(-5.24)***	0.043(1.70)*
Big4	0.005(1.82)*	0.002(0.83)
Abnda$_{t-1}$	0.092(12.81)***	-0.166(-21.63)***
DK_SCORE	-0.001(-2.03)***	-0.003(-1.64)
ISLE_S	-0.0007(-0.39)	-0.001(-1.47)
NP1	0.047(11.51)***	0.039(9.10)***
LEV	0.001(2.31)**	-0.001(0.88)
SIZE	0.003(2.73)***	-0.004(-3.35)***
DLOSS	-0.029(-6.88)***	-0.044(-9.68)***
	Including dummy variables yearly	
Adj R^2	23.41	28.41

Footnote 1) *, **, *** are significant at the 10%, 5%, 1% level , respectively

 Definition of Variables:

DM: Discretionary accruals estimated by adjusted Jones model(1991, 1995)

RM: measurement of real activity management, which is abnormal CFO, abnormal production cost and abnormal discretionary expenditure

Big4: Dummy variable equals 1 if the firm's auditor is a Big four, otherwise 0

LEV: Debt ratio, that is current debt / current asset

NP1: Dummy variable equals 1 if reported earnings before managing earnings is positive, otherwise 0 .

AbnDA$_{t-1}$: Abnormal accruals,

   DK_SCORE: Dummy variable that equal 1 if the firm's K_SCORE is less than median of full sample's K_SCORE, and otherwise 0

SALE_S: The percentage of the company's sales to the total sales of its industry.

SIZE: Ln(total asset in the previous period)

DLOSS: Dummy variable equals 1 if reported earnings is negative, otherwise 0

YR: Dummy variables yearly.

4.3.1 Additional Analysis

To test whether managers make RM and DM decisions simultaneously or sequentially quarterly, we also conduct the Hausman test for each quarters as well as annual.

<Table 4-6> reports the results of the Hausman tests for each quarter. In the panel 1 and panel 3, Hausman tests reject the exogeneity of RM in the DM regressions(with p-value ranging from 0.001 to 0.0001), which means DM(or RM) is correlated with RM(or DM)'s error term. These results indicate that RM and DM are determined simultaneously. On the other hand, in the panel 2, Hausman test fail reject the exogeneity of DM in the RM equations.(with p-values 0.588) In contrast, all of the Hausman tests reject the exogeneity of DM in the RM model, which means DM is correlated with RM's error term. These results indicate that RM and DM are determined sequentially, with RM preceding DM.

<Table 4-6> Hausman Test for Simultaneity versus Sequentiality of Real and Accrual Manipulations about each quarter

Panel 1: first quarter

Model(n=1,842)	RM	DM
Endogenous	Coefficient(p-value)	Coefficient(p-value)
variables:		
DM	1.551(0.001)	
RM		1.599(0.0002)
P_DM	-1.186(0.001)	
P_RM		-1.766(0.0001)
Hausman test		
1st-stage adj. R^2(%)	48.75	41.70
2st-stage adj. R^2(%)	21.54	31.35
p-value for Hausman stat.	0.001	0.0001

Panel 2: second quarter

Model(n=1,842)	RM	DM
Endogenous	Coefficient(p-value)	Coefficient(p-value)
variables:		
DM	-0.334(-2.36)	
RM		6.735(0.0001)
P_DM	0.012(0.082)	

		-0.936(0.588)
P_RM		-0.936(0.588)
Hausman test		
1st-stage adj. R^2(%)	0.87	12.81
2st-stage adj. R^2(%)	0.30	2.64
p-value for Hausman stat.	0.082	0.588

Panel 3: third quarter

Model(n=1,842)	RM	DM
Endogenous variables:	Coefficient(p-value)	Coefficient(p-value)
DM	16.407(0.001)	
RM		0.013(0.593)
P_DM	-11.310(0.001)	
P_RM		-0.068(0.001)
Hausman test		
1st-stage adj. R^2(%)	43.82	6.53
2st-stage adj. R^2(%)	3.69	7.69
p-value for Hausman stat.	0.001	0.001

Definition of Variables:

DM: discretionary accruals

RM: abnormal CFO

P_DM or P_RM: the predicted value form the first-stage regression

5 Conclusions

Substantial studies on earnings management have been performed for a long time. Prior literatures provided evidence that managers frequently used discretionary accruals in managing earnings.(Dechow and Sweeney 1995, Jones 1991, Kothari, Leone and Wasley 2005). However, recent studies provide some evidence that firms may utilize real activities in managing earning even if this will incur additional costs for firms. Therefore, we investigate earnings management through both real activities and discretionary accruals for a broad sample of firms over 2003-2007.

The purpose of this study is to find whether real activity management(RM) and discretionary accruals management(DM) are performed simultaneously or sequentially to manage earnings. Also, we investigate how differently other factors

influencing DM will affect managers' RM decisions.

This result of this study is important for two reasons. First, as mentioned by Fields, Lys and Vincent(2001), examining only one earnings management tool at a time cannot explain the overall effect of earnings management activities. In particular, if managers use RM or DM as a substitute, the examination of either type's earnings management in isolation cannot reach definitive conclusions. Further, managers are more likely to use RM or DM as substitute(or combination). Second, factors that influence DM are more likely to affect managers' RM decision, which may be related to managers' accounting choices.

First of all, this paper tests whether DM or RM are determined sequentiality or simultaneity. Also, we define factors which may influence RM or DM to test for whether DM affect managers' decisions on RM, and we test the relation between these factors and RM(or DM). Lastly, this study tests whether RM or DM are determined differently depending on associated quarters.

The results of this study provide evidence that managers use RM and DM to mange earnings simultaneously. Further results show that RM(or DM) is correlated with the factors for DM(or RM) in an opposite direction although ISLE_S in DM model is insignificant. Also, firms which want to avoid reported losses through earnings management have incentive to manage earnings using both RM and DM.

This study differs from previous literatures in the following respects. First, this study tests whether RM or DM are determined sequentially or simultaneously, and whether managers' decision for RM or DM is different quarterly. Second, we examine some factors associated with DM and RM and their effect on the relation between DM and RM.

The results of this study will provide an insight into the real activities management as a means to manage earnings to related regulators and the users of firms' financial information.

Reference

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EARNINGS MANAGEMENT BY MEANS OF CHANGES IN ACCOUNTING ENTITIES
－ The Case of Tobu Railway Company －

Yoshihiro Tokuga[11]and Toshitake Miyauchi[12]

Abstract

Companies sometime hide liabilities or losses through changes in accounting entity. Although few textbooks deal with this topic, studying how to use changing entity is very important. In this case, we consider the Tobu Railway Company, which has benefited from industrial policy on several occasions through affecting changes in accounting entity. To ignore this aspect of the company in any analysis, investors and/or analysts attempting to analyze this company would misunderstand it. Through investigating a company's current accounting entity situation, we are sometimes able to quantify the benefits and/or changes attributed to the accounting entity.

The case described below is intended for undergraduate accounting students, graduate students, MBA students, CPAs, security analysts, and other business people who want to *increase their awareness of, and to improve* their business analysis techniques.

Introduction

Although extensive case materials have been produced for Business Analysis education, most of these materials have a North American or European bias, and few have been produced describing the activities of Asian companies. However, for comparative purposes, it is important for students at business schools in Asia to study the accounting behaviors of Asian multinational companies using Asian case materials. We have therefore decided to develop case materials describing the accounting activities of Asian companies.

Companies sometime hide liabilities or losses through changes in accounting entity. Although few textbooks deal with this topic, studying how to use changing entity is very important. In this case, we consider the Tobu Railway Company, which has benefited from industrial policy on several occasions through affecting changes in accounting entity. To ignore this aspect of the company in any analysis, investors and/or analysts attempting to analyze this company would misunderstand it. Through investigating a company's current accounting entity situation, we are sometimes able to quantify the benefits and/or changes attributed to the accounting entity.

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The case described below is intended for undergraduate accounting students, graduate students, MBA students, CPAs, security analysts, and other business people who want to *increase their awareness of and to improve* their business analysis techniques.

Tobu Department Stores, which is a subsidiary of The Tobu Railway Company, incurred considerable unrealized capital losses on real estate because it bought a great deal of land during the bubble economy before land prices dropped. In addition, the Tobu Railway Group was at risk of posting considerable losses due to revaluation of fixed assets, which was required because Asset Impairment Accounting would become compulsory from the end of fiscal year 2005 (beginning March 2006). At the same time, the Land Revaluation Law (temporary legislation) was enacted in 1998, which permitted an increase in land valuation for a limited time period. Skillful utilization of this legislation would provide Tobu Railway Group with the opportunity to eliminate unrealized capital losses on land. However, land revaluation under the Land Revaluation Law was restricted to one application per company. Also, when applying the Land Revaluation Law, companies were required to revaluate all owned land; selective revaluation of only land with unrealized capital gains was not permitted. Since the Tobu Department Store subsidiary owned nearly no land with unrealized capital gains, the Finance Department of the Tobu Railway Company considered the possibility of eliminating unrealized capital losses on land for business use by skillfully applying the Land Revaluation Law.

Background

The area serviced by the Tobu Railway Company, which was founded more than 110 years ago in 1897 by the "Railway King", Kaichiro Nezu[13], is shown in Figure 1. Tobu Railway Company primarily services the Kanto Region where it operates routes in 1) the Tokyo Metropolis and eastern Saitama Prefecture (green area[14]), 2) central Gunma and Tochigi Prefectures, and 3) western Chiba Prefecture. By fiscal 2005, Tobu Railway Company had consolidated net sales of 646.3 billion yen and 20,483 employees. Table 1 shows a fiscal 2005 ranking of Japanese railway companies on the basis of net sales; Tobu Railway Company ranks 8th based on sales, and third

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[13] Kaichiro Nezu is often referred to as the "Railway King" for having amassed considerable personal wealth through rehabilitating railway companies that fell into financial difficulty. He also undertook education projects to return to society profits generated by his railway business activities and opened Musashi University and Musashi High School.

[14] The word "Tobu" in Tobu Railway means "Eastern Musashi". It is derived from "Musashi," the former name for the area consisting of present-day Tokyo and Saitama Prefecture.

among railway companies that have routes in the Kanto Region (company names shown in italics).

≪Figure 1≫ Service Area of the Tobu Railway Company

In addition to railways, the Company consists of a multifaceted corporate group that has operations in the leisure, real estate development, and retail distribution business sectors. Specifically, these operations consist of: 1) the transportation business, including rail, bus, and taxi services; 2) the leisure business, including tourism and hotels; 3) the real estate business, including property subdivision and rental; and, 4) the distribution business, including department stores located primarily in front of Tobu train stations.

These four businesses are all closely related, and the business model employed by the Tobu Railway Company is based on increasing customer traffic by encouraging railway use. Specifically, the business model promotes the use of railways through the development and operation of amusement facilities, department stores, and residential

properties near train stations; people use these facilities because of their proximity to

≪**Table 1**≫   **Revenues and Operating Profits of Japanese Railway Companies**

		Revenues	Operating profits	(billion yen)
1	*East Japan Railway Company*	2,592	396	
2	Central Japan Railway Company	1,467	404	
3	*Tokyu Corporation*	1,389	86	
4	West Japan Railway Company	1,240	135	
5	Kintetu Corporation	948	67	
6	Hankyu Hanshin Holdings	799	87	
7	Meitetu Group	740	39	
8	*Tobu Railway Company*	646	48	
9	*Odakyu Electric Railway Company*	610	36	
10	*Keio Corporation*	438	40	
11	*Seibu Railway Company*	435	30	

※ fiscal year ending March 2006

≪**Figure 2**≫   **Revenue And Operating Profit By Business**

Revenue
（total revenues : 646 billion yen）

38.9%
32.3%
13.1%
8.3%
7.4%

Operating Profit
（total operating profts : 48 billion yen）

10.7%
58.1%
2.7%
21.4%
7.1%

■ distribution
■ transportation
■ leisure
■ real estate
■ the others

the railway.

Figure 2 shows the breakdown of the company's activities in each business segment with respect to revenue and operating profit. The pie charts show the railway and distribution businesses [15] to be the core businesses of the Group, accounting for approximately 70% of the revenue base. They also show that the railway business alone accounts for approximately 60% of the operating profit of the

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[15] Since the products handled in the distribution business (Tobu Department Store) have high unit prices, revenues from this business segment are high.

company. It should therefore come as no surprise that the Tobu Railway Group makes extensive areas of land in all of its business activities, particularly for the core railway (Tobu Railway Company) and distribution businesses (Tobu Department Store).

The Accounting Problem

In Japan, the implementation of asset impairment accounting in accordance with the Accounting Standards for Impairment of Fixed Assets was only made obligatory from the fiscal year ending March 2006. At the time asset impairment accounting was implemented, in cases where the profit potential (including the land disposal amount) of a fixed asset (plants, land, etc. owned by a company) decreased and the prospects for recovery of the invested funds disappeared, the company was required to record this loss as the difference between the discounted present value of expected future cash flow generated by the fixed asset and the book value. On the other hand, a company was not permitted to increase its valuation of fixed assets for which profit potential had increased. The implementation of asset impairment accounting therefore posed a major problem for the Tobu Group given its considerable land holdings. In particular, Tobu Department Stores had unrealized capital losses on land of fully 50.0 billion yen (equivalent to the total consolidated net income for 5 to 10 years). The Tobu Railway Company realized that Tobu Department Stores alone would incur considerable impairment losses if the company failed to deal with unrealized capital losses before fiscal year-end and the introduction of impairment accounting.

In anticipation of the potential difficulties associated with the introduction of the asset impairment accounting system, the government enacted the Land Revaluation Law in March 1998. The Land Revaluation Law permitted revaluation of land for business use at market prices by financial institutions and ordinary business corporations. However, the law, the purpose of which was to increase the sustainability of financial institutions, especially banks and to improve the corporate management environment, limited companies to only one revaluation of land to market prices. Corporations that applied the law were able to select one of five measures of market price: 1) the posted land price, 2) the benchmark land price as given in the National Land Use Planning Act, 3) the assessed value of fixed assets, 4) the *roadside land price* used for the assessment of *inheritance tax*, and 5) the appraised value by a real estate appraiser. The law required companies to record up to 60% of the difference between the market price and book value as the land

revaluation difference for use as shareholders' equity (refer to the Appendix for a detailed description of the accounting treatment). There were two important considerations at the time of implementation of the Land Revaluation Law: 1) a company could only revalue land once, and 2) a company had to revalue all of the land that it owned. (In other words, a company could not selectively revalue land from which unrealized capital gains had been generated.)

Figure 3 depicts the implementation of the Land Revaluation Law and the implementation of the Accounting Standards for impairment of fixed assets over time. On the one hand, the time limit for the implementation of the Land Revaluation Law was the fiscal year ending March 2002. On the other hand, the implementation of asset impairment accounting was permitted from the fiscal year ending March 2004, and implementation was obligatory from the fiscal year ending March 2006 onward. That is to say, if Tobu Railway wished to avoid recording an impairment loss at the time asset impairment accounting was implemented nationally, then it would be necessary to implement the requirements of the Land Revaluation Law by the end of the fiscal year ending March 2002 in order to reduce, as far as possible, unrealized capital losses on land for business use[16].

≪Figure 3≫ Time Limits of the Law and Accounting Standard Implementation

Aims

The objectives of the Tobu Railway Group's Finance Department at the time of implementation of the new accounting measures were as follows:

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[16] Other companies also postponed the introduction of impairment accounting and strategically utilized the Land Revaluation Law. In the fiscal year ending March 2002, 280 companies revalued land according to the requirements of the Land Revaluation Law. A total of 453 companies revalued land using the Land Revaluation Law during the period leading up to the fiscal year ending March 2002.

≪**Figure 4**≫　**Land Ownership Structure of the Tobu Railway Group**

(※) Parcel a: land having unrealized capital gains / Parcel b: land having unrealized capital losses

1. To avoid incurring a substantial loss;
2. If possible, to achieve a year-on-year increase in profit; and
3. Selection of a method that would not have a major impact on earnings, taxable income, etc.

The most important consideration related to the implementation of the Land Revaluation Law by the Tobu Railway Group as a means of eliminating unrealized capital losses on land for business use was the legal requirement to revaluate *all* of the land owned by a corporation. Figure 4 shows the land ownership structure of the Tobu Railway Group. It can be seen that, whereas most of the land held by the parent company, Tobu Railway Company, had unrealized capital gains, Tobu Department Store only owned land having unrealized capital losses. This meant that the elimination of unrealized capital losses would therefore be impossible with this organizational structure, even if the requirements of the Land Revaluation Law were followed.

In response, Tobu Railway Company devised the plan shown in Figure 5, which involved selecting land owned by Tobu Railway Company with unrealized capital gains

≪**Figure 5**≫   **The Creation of a New Entity through the Contribution of Land in Kind**

(※) Parcel a: land having unrealized capital gains

Parcel b: land having unrealized capital losses

(Parcel a2), and then donating this land to a newly-established company formed through a merger with Tobu Department Store.[17] Since the unrealized capital gains and losses would correspond (Parcel a2 and Parcel b2 would correspond), satisfaction of the requirements of the Land Revaluation Law following the merger would make it possible to offset unrealized capital losses using unrealized capital gains.[18] Although the Land Revaluation Law required the revaluation of all of the land held by a corporation, the creation of a new accounting entity through the contribution of land in kind would make the partial utilization of unrealized capital gains on land possible.

Tobu Railway Company devised a plan to use this technique at the start of the new financial year in April 2000 to eliminate unrealized capital losses on land incurred by the companies in the group, including Tobu Department Store. Figure 6 shows the

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[17] Tobu Railway Company used the pooling of interest method as an accounting procedure for business combination. As no accounting standard for business combination existed at the time in Japan, there was no need to satisfy particular requirements at the time of equity pooling; it was left to the discretion of companies as to whether or not they wished to adopt either the equity pooling method or the purchase method.

[18] Under Article 51 of the previous Corporation Tax Law and Article 93 of the previous Corporation Tax Law Enforcement Regulations, which prescribed accounting treatment concerning the establishment of subsidiaries by means of contributions of land in kind, in the case where a company established a subsidiary in which it owned 95% or more of the shares and had a controlling interest, transfers using the book value of the land as an equity contribution were permitted.

planned corporate organization required to achieve this. The plan was for Tobu Railway Company to establish three types of subsidiary - a distribution company, a hotel company, and a company for other business activities - and providing these with land (Parcel a1, Parcel a2, and Parcel a3) with unrealized capital gains owned by Tobu Railway Company as contributions in kind. Tobu Railway Company would then merge the companies having unrealized capital losses on land into the new subsidiaries. The plan was thus to deal with unrealized capital losses on land by applying the Land Revaluation Law to the three new subsidiaries (Tobu Commerce, Tobu Hotel Assets, and Tobu Integrate) after implementing the mergers.

However, for the fiscal year ending March 2001 (fiscal 2000), the unrealized capital losses on land owned by Tobu Department Stores increased beyond initial projections, and it became highly unlikely that these losses could be offset using only the unrealized capital gains on land from the new distribution subsidiary (Tobu Commerce). In response to this situation, in its settlement of accounts for the fiscal year ended March 2001, the Tobu Railway Group abandoned the idea of newly established subsidiaries receiving contributions in kind and applied the Land Revaluation Law to the three new subsidiaries without implementing subsidiary mergers. That is to say, the settlement of accounts for the fiscal year ending March 2001 (fiscal 2000) passed with no pooling of unrealized capital gains on land in the new subsidiaries (Figure 7). Since the difference

≪**Figure 6**≫   **First Plan for Organizational Restructuring**

(※) Parcel a: land having unrealized capital gains / Parcel b: land having unrealized capital losses

in land revaluation amounted to approximately 81.8 billion yen in the consolidated financial statements for that fiscal year, a simple estimate suggests that the Tobu Railway Group implemented a write-up under the Land Revaluation Law equivalent to unrealized capital gains of approximately 136.3 billion yen[19]. Then, in preparation for the fiscal year ending March 2002 (fiscal 2001), the deadline for implementation of the Land Revaluation Law, Tobu Railway Group continued to search for ways to offset the unrealized capital losses on land carried by Tobu Department Stores. After the new

≪**Figure 7**≫   **Modification to the First Plan for Organizational Restructuring**

fiscal year began in April 2001, Tobu Railway Company devised a new accounting method for dealing with the issue of unrealized capital losses on land. At that time, the three newly established subsidiaries had already employed the Land Revaluation Law once. Since a company could only use the provisions of the Land Revaluation Law once, these three subsidiaries could not use the Land Revaluation Law again. However, because Tobu Department Store had not previously employed the provisions of the Land Revaluation Law, the Tobu Railway Company implemented the organizational restructuring changes shown in Figure 8 in preparation for the fiscal year ending in March 2002 (fiscal 2001), which was the deadline for the implementation of the Land
Revaluation Law. The restructuring involved first merging the three newly established

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[19] 81.8 billion yen ÷ 0.6

subsidiaries into Tobu Department Store, and then revaluating the land belonging to the new Tobu Department Stores company.

Simultaneously, Tobu Railway Group then merged other less well performing subsidiaries, which had land with unrealized profits that were insufficient for covering their own unrealized losses, into the Tobu Railway Company (excluding Tobu Department Store), before applying the Land Revaluation Law to manage unrealized capital losses. As a result of these organizational changes, it is estimated that a land revaluation difference amounting to approximately 64.7 billion yen was reversed, and unrealized capital gains of approximately 107.8 billion yen[10] were applied to offset unrealized capital losses, even when the revaluation differences calculated of the Tobu

Railway Company (approximately 34.1 billion yen) were considered.

≪**Figure 8**≫　　**Second Plan for Organizational Restructuring**

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[10] 64.7 billion yen ÷ 0.6

≪**Figure 9**≫ **Change in Earnings**

million yen

Operating Profit Ordinary Profit Net Profit

Figure 9 shows the changes in the earnings of the Tobu Railway Group. Earnings for the fiscal year ending March 2006 (fiscal 2005), the year of compulsory implementation of asset impairment accounting, showed an operating profit of 47,707 million yen, an ordinary profit of 41,294 million yen, and a net profit of 26,873 million yen. Although impairment loss is an extraordinary loss item that has an impact on net profit, as a result of utilization of the Land Revaluation Law to deal with unrealized capital losses in advance, the Tobu Railway Group limited the impairment loss in fiscal 2005 to 15,010 million yen, avoided recording a large net loss, and instead achieved an earnings increase (equalization of future earnings).

Still, in the fiscal year ending March 2002 (fiscal 2001), in addition to offsetting unrealized capital losses by applying the Land Revaluation Law, the Tobu Railway

≪Figure 10-1≫ Change in Net Profit

million yen

≪Net Profit≫

≪Figure 10-2≫ Net Profit after Eliminating Bias Introduced by Manipulation of Entities

million yen

Net Profit before Applying the Land Revaluation Law

Group recorded significant losses due to the disposal or elimination of non-performing assets, which resulted in the Group recording a net loss for the fiscal year ending March 2002 (fiscal 2001).

942

Figure 10-1 shows the change in net profit only; a financial indicator we selected for

analyzing the impact of Land Revaluation Law implementation. For purposes of comparison, Figure 10-2 shows the projected change in net profit that would have occurred if the Tobu Railway Group had not applied land revaluation and the unrealized capital loss of approximately 107.8 billion yen had been actualized due to compulsory implementation of asset impairment accounting in fiscal 2005.

It can be estimated that, had the Tobu Railway Group not applied the Land Revaluation

Law, the Group would have posted a net loss of approximately 80.0 billion yen in fiscal 2005.

Next, we will consider how the stock market assessed this change in earnings figures. Figure 11-1 shows change in the monthly price of Tobu Railway Company shares, and Figure 11-2 shows a comparison of the share price for Tobu Railway Company (blue) with the TOPIX (red)[11]. The graphs confirm that the share price increased in the fiscal   year ending March 2006 (fiscal 2005), the year of obligatory implementation of asset impairment accounting, both with respect to raw data and in comparison with the TOPIX. In Figure 10-1 and Figure 10-2 we show the projected business results for the scenario in which the Tobu Railway Group did not deal with its unrealized losses on land through applying the Land Revaluation Law. Supposing that Figure 10-2 provides a true picture of the earnings of Tobu Railway Group, it is possible that the stock market was misled. That is to say, it is conceivable that the share price was decided on the basis of the

≪Figure 11-1≫　Change in Monthly Share Price of the Tobu Railway Company

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[11] TOPIX is an abbreviation for Tokyo Stock Price Index, a share price index calculated as a weighted average using the magnitude (the total market value) of the share prices of all companies listed on the First Section of the Tokyo Stock Exchange.

≪**Figure 11-2**≫ **Comparison of Tobu Railway Company Stock Price and TOPIX**

treatment of unrealized capital losses even though the company's performance had not actually changed in reality.

Learning Objectives

Four lessons can be obtained from this case study:

1. Earnings can be manipulated by changing entities and the scale of the manipulations.

2. The details of actual discretion with respect to accounting earnings can be demonstrated.

3. Bias introduced by actual discretion can be eliminated from accounting figures.

4. The likelihood of whether share mispricing has occurred can be assessed by collating accounting figures after bias correction with the evaluation of the stock market.

Questions

1. If the Tobu Railway Group desired only to realize unrealized capital gains on land, several other approaches are conceivable. Consider what other methods are available. Consider also the reasons for the adoption of the Land Revaluation Law in this case rather than other methods.

   i) If the Tobu Railway Group had adopted the purchase method at the time of the merger with newly established subsidiaries by means of contributions of land in kind, land revaluation without implementation of the Land Revaluation Law would have been possible.

Goodwill amounting to tens of billions of yen would have been recorded, and amortization of the goodwill would have become a drag on future earnings.

   ii) The sale and repurchase of land with unrealized capital gains would have made land revaluation possible.

   It would have been difficult to find a buyer, and profit on the sale of land and taxable income would be generated in the fiscal year of the sale (i.e. at a time when such a sale would not correspond to future impairment losses).

2. What do you think of the proposition, "The unrealized capital losses could have been eliminated if all subsidiaries had been merged into Tobu Railway Company and the Land Revaluation Law had been applied?"

3. A large net loss was recorded in the fiscal year ending March 2002 (fiscal 2001). Might a big bath have occurred? Obtain the annual securities report and discuss this possibility.

4. The railway industry is a regulated industry. Could the political costs hypothesis not apply here as motivation for recording the enormous loss mentioned in 3 above? Through a discussion of what the political costs hypothesis is, examine whether the receipt of government subsidies or an increase in railway fares occurred.

Appendix

   It is said that implementation of the Land Revaluation Law enabled corporations to deal with unrealized capital gains and unrealized capital losses on land with no impact on the profit and loss statement. We journalize this below using a hypothetical example.

[Example]

   Tobu Railway Company owns two parcels of land, Parcel A and Parcel B, and has applied land revaluation to the two parcels. The acquisition cost of Parcel A and Parcel B, and the market price of the land at the time of revaluation are shown below:

	acquisition cost	market price	difference
Parcel A	500	800	+300
Parcel B	700	500	- 200

Time of Implementation of the Revaluation Method

   ＜Revaluation of Parcel A＞

Debit : Land   300 ／ Credit : **Land revaluation difference   180**
                                        （Added to shareholders' equity）
                                        Deferred tax assets liabilities land
                                                 related   to   revaluation
                                                        120

   ＜Revaluation of Parcel B＞

Debit : **Land revaluation difference   120** ／ Credit : Land   200
        （Subtracted from shareholders' equity）
        Deferred tax assets related to
             land revaluation   80

   ＜Combined Journal Entries＞

| Debit: Land | 100 | Credit: **Land revaluation difference** | 60 |
| Deferred tax assets related to land revaluation | 80 | Deferred tax assets liabilities related to land revaluation | 120 |

At the time of Parcel A revaluation, 60% of the unrealized capital gain is recorded as an increase in shareholders' equity (added to the land revaluation difference account), and 40% is treated as an increase in liabilities. At the time of Parcel B revaluation, 60% of the unrealized capital loss is recorded as a decrease shareholders' equity (decrease in the land revaluation difference), and 40% is treated as an increase in assets. That is to say, by pairing up Parcel A, which carries an unrealized capital gain, with Parcel B, which carries an unrealized capital loss, and applying the Land Revaluation Law, it is possible to offset 60% of the unrealized capital loss by means of addition and subtraction to an item in shareholders' equity (the land revaluation difference account).

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3.4 Capital Markets

PROPERTIES OF FINANCIAL ANALYSTS' EARNINGS FORECAST VARIANCE IN GOOD-NEWS AND BAD-NEWS ENVIRONMENTS: THEORY, EVIDENCE AND USEFULNESS

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Draft: June 2009.

Abstract

This study documents that the variance of analysts' forecast of earnings is smaller when the expected or actual news about earnings is good (relative to when it is bad). Together with the observation that variance of forecast is larger for extreme news, this study offers evidence consistent with the theory that larger variance is caused by higher private information of the analysts. An examination over the entire fiscal year provides evidence of earlier consensus building amongst analysts, as measured by reduction in variance over time in the good-news environment. Forecasts of earnings can be improved when variance of analysts' forecasts are used along with its mean. A trading strategy based on the variance of analysts' forecasts earns positive abnormal returns, when conditioned upon the nature of the news.

I. INTRODUCTION AND SUMMARY

Variance of analysts' forecasts [20] of earnings has been variously interpreted as a measure of risk and informational uncertainty in the prior literature. For instance, Imhoff and Lobo (1992) have used it as a firm level

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[20] The term variance of analysts' forecasts of earnings is used interchangeably with terms variance of forecasts or variance of analysts' forecasts or analysts' forecast variance throughout this paper.

proxy for differences in opinion amongst investors. In a similar vein, Bryan and Tiras (2007) provide evidence that analyst forecasts are a proxy for other information and that higher level of dispersion indicates high information asymmetry. Zhang (2006) also uses analyst forecast dispersion as a measure of information uncertainty. Gebhardt, Lee and Swaminathan (2001) on the other hand, uses variance of analysts forecast as risk. These characterizations are not without problems and possible contradictions. For example, Diether, Malloy and Scherbina (2002) show that higher analysts forecast variance generate a higher level of stock return, thus contradicting the risk interpretation of the measure. Evidence consistent with the interpretation of informational uncertainty has been provided by many studies such as Diether et al., (2002) and Han and Manry (2000) who document that firms with higher variance of analysts' earnings forecast have relatively lower future stock returns and ROE. In another important paper, Easterwood and Nutt (1999) document that either extreme good news or extreme bad news is associated with increased uncertainty about earnings. Consistent with Easterwood and Nutt (1999), Gu and Xue (2007) document that variances of analysts forecasts are indeed higher for extreme good news and bad news, thus confirming the characterization of informational uncertainty. However, no direct evidence of informational uncertainty has been documented so far.

Theoretical models strive for rational explanations (Trueman 1990; Verrecchia 1983; Dye 1985) and empirical studies provide documentation (Chambers and Penman 1984; Givoly and Palmon 1982; Kothari et al, 2007) that good news about corporate performance comes out earlier than the bad news. In the context of annual earnings, the implications of later arrival of bad

news could be that of higher informational uncertainty, increased private information acquisition by individual investors and financial analysts, and increased variance in analysts' forecasts of earnings for bad news. In this study, we investigate and offer evidence that the variances of analysts' forecasts are systematically different in Good News and Bad News environment and how the extent of good and bad news may affect such varinces[21] Following the measures developed by Barron et. al. (1998) we also offers evidence that such differential in variance can be explained by the underlying information environment of public vs. private information of analysts. We also examine if the variance of analysts' forecasts differ systematically during the fiscal year for good-news and bad-news environments and for the different amount of good or bad news. Finally we also examine the economic significance of such differential variances in connection to earnings forecasts and future stock returns.

More specifically, this study examines the level and change in the variance of analysts' forecasts over the fiscal year under good-news and bad-news environments preceding earnings announcement. It uses *four* definitions of good-news and bad-news events– two *ex ante* definitions and two *ex post* definitions. For each definition, the variance of analysts' forecasts of earnings is compared at various points of time prior to the annual earnings announcement to answer the following four research questions: First, is the variance of analysts' earnings forecasts significantly different for forecasts associated with good and bad earnings news, and if so, how does it differ

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[21] Payne and Robb (2000) have used a reverse argument that lower variance of analyst forecast would be a motivating factor for managers to expend extra effort to meet market expectations. Hence a "good news" by way or meet or beat earnings forecast is more likely to follow a lower forecast variance.

across different levels of good and bad news? Second, does the differential in variances can be explained by the amount of private v. public information with analysts? Third, does the variance of analysts' forecasts changes differentially and predictably over the fiscal year in good-news and bad-news environments? Fourth, , does the variance of financial analysts' earnings forecasts explain cross-sectional variation in the level of earnings based on expected news (good-news or bad-news) in earnings? Finally, do arbitrage portfolios based on the analysts' forecast variance *and* the nature of expected underlying news generate positive abnormal stock returns? In this final test we confirm the results of Diether, Malloy and Scherbina (2002) and refine their results to show that the interaction of the nature of news and the forecast variance generate an even higher level of stock return.

Our empirical findings are that after controlling for firm, year, and pre-earnings announcement period (quarter), the variance of analysts' earnings forecasts is smaller when there is good-news about earnings. We also confirm the Gu and Xue (2007) results that variances of analysts forecast is greater when the underlying news is extreme. We show that after controlling for the level of good news and bad news, analysts forecast variance is higher for the bad news variance. Further, using the measure developed by Barron et. al. (1998) we show that a) the amount of private information of analysts are always higher in a bad-news environment and b) the amount of private information is higher when the news is extreme. Thus, higher variance is always associated with the higher private information of the analysts. In addition, the variance in analysts' annual earnings forecasts decreases over time, in part, because of interim disclosure of mandatory information. The

evidence further suggests that the reduction in variance is earlier in the good-news environment, consistent with the view that good news disclosures take place earlier and relatively less information is systematically produced for bad-news announcements.   Consistent with theory, we show that the private information of analysts also decreases over time. At an aggregate level, reported earnings are negatively associated with the variance of the analysts' earnings forecasts, and firms with higher variance have lower earnings and bad news.   Thus, if a higher variance is caused by either the nature of the news (good v. bad) or the size of the news (extreme v. small) our result indicate that on the average, the effect of the nature of the (bad) news, dominate that of the size of the (good) news. , As a result, the market consensus forecast is smaller than the mean of analysts' earnings forecasts when analysts' forecasts variance is higher.   We suggest the use of different adjustment factors in different quarters for forecasts made in good and bad-news environments.   Finally, our study documents that arbitrage portfolios constructed at the end of each quarter on the basis of the variance of analysts' forecasts *and* the nature of the underlying news (good-news or bad-news) generate year-end abnormal returns in the range of *6-10%*.

The issue of information dissemination is important for capital market researchers. The predictive power of the analysts' earnings forecast variance, if any, of the future earnings news at announcements is important for investors and other market participants alike. If information in the variance of analysts' earnings forecasts improves the prediction of earnings, then the market's expectation of earnings should assign a weight to this measure. To the extent the market fails to do so, it provides an opportunity to earn

abnormal returns around future earnings announcements and to develop better earnings forecasts. The finding of this study, that the relative disclosure timing of good-news and bad-news (Kothari et al., 2007) has differential implication on the variance of analysts' forecasts, make several important contributions to the literature. *No* prior study has examined and documented that *both* (a) the variance of analysts' earnings forecasts, and (b) the change in the variance of analysts' earnings forecasts over the fiscal year, vary systematically for good and bad-news firms and explain the variation through the extent of private v. public information possessed by the analysts. The finding that the variance of analysts' earnings forecasts contains information that can be used to improve the prediction beyond the consensus analysts' forecast is also not present in the prior literature and has direct implications for *all* capital market studies using consensus analyst forecast as market earnings expectation. Finally, though it has been documented that the variance of analysts' earnings forecasts can be used to generate subsequent abnormal monthly returns (Diether et al., 2002), our results indicate that these abnormal returns are driven by firms with good and not bad-news. Furthermore, by forming portfolios at different points of time, this study documents that the variance of analysts' forecast has information that can be used as early as the first quarter of the fiscal year to generate abnormal returns based on expected earnings news.

II. HYPOTHESES DEVELOPMENT

Information Arrival in Good-News and Bad-News Environments

Theoretical arguments support managerial incentives to delay the announcement of bad news. In a model that makes information manipulation

costly, Trueman (1990) shows that a strategic manager may delay releasing bad news to receive additional information that could improve his or her ability to judge the costs and benefits of information manipulation. Furthermore, if disclosure leads to proprietary costs, information gets released only if the benefits exceed the costs (Dye 1985; Verrecchia 1983). Non-disclosure can represent an extreme form of disclosure delay. Managers also have incentives to build their personal or corporate reputations to create a "resolution preference" that encourages them to hasten the delivery of good news and postpone bad news (Hirschleifer 1993). Finally, the manipulation of information is time consuming and bad news is always manipulated to the greatest extent possible before its release, which may lead to the delay. A simple explanation for this intentional delay posits that the passage of time is of value to a manager because interim actions and unforeseen events might ameliorate the consequences of the bad-news event.

Overwhelming empirical evidence provides corroborating evidence that good news about corporate earnings comes out early, and bad news comes out later (Chambers and Penman 1984; Givoly and Palmon 1982; Kross and Schroeder 1984; McNichols 1988; Mendenhall and Nichols 1988; Patell and Wolfson 1982; Penman 1984; Begley and Fischer 1998; Kothari et al. 2007). Kothari et al. (2007) consider this as a career concern of the manager because such disclosure strategy has the potential to alter management compensation. They rightly observe that in cases of recent scandals managers explicitly withheld bad news from outside investors and such

behavior reinforces the belief that managers' private incentives significantly influence the characteristics of corporate disclosures.[22]

The literature points to other motives for timing disclosures. For instance, managers may delay the release of bad news to benefit from the opportunity to exercise stock options. Several studies (Baginski et al., 1994, Yermack, 1997, and Aboody, Barth and Kasznik, 2004)) have shown that managers accelerate bad news and/or withhold good news in the period immediately preceding the option grant dates to lower the exercise price of the options thus increasing the value of their option grants. Other studies (Kasznik and Lev (1995), and Skinner (1994, 1997)) show that managers have a propensity to forewarn analysts of losses (bad news) to prevent increased exposure to litigation risk. This advance notice, however, refers only to a warning prior to the statutory release of the information and does not suggest communication at the inception of the bad-news event or that it would appear earlier if the firm had good news to report.[23] Other explanations for delay include audit complexities associated with bad news, delays by smaller firms (that have more bad news on average), and industry practices that cause more bad news during the test period. None of these explanations receive strong empirical support over time (e.g., Givoly and Palmon, 1982). To summarize, earlier as well as more recent studies (Begley and Fischer, 1998, Kothari, 2007) provide evidence that after considering various

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[22] A more appropriate but extreme example of the value of the passage of time is the following story retold by Ro Verrecchia (Verrecchia 1983). When sentenced to death by the King, a knave offers to teach the King's horse how to talk in a year's time. He explains later to his friends, "Within a year anything can happen, the King may die, the horse may die, or the horse may even learn to talk."

[23] It seems that under an experimental setting, analysts seem to believe that disclosures are downwards biased and managers have a definite pre-announcement strategy (Tan et al. 2002).

incentives to manage news releases, managers release good news earlier than bad news.

Analysts Incentive & Interactions in Good News and Bad News Environments

Empirical evidence indicates that financial analyst incentives differ in analyzing firms with good news versus bad news. McNichols and O'Brien (1997) show that financial analysts are generally reluctant to be the first bearers of bad news and may choose to delay their information release. In extreme cases of bad news, financial analysts may drop the firm rather than repeatedly release unfavorable news. Womack (1996) and Michaely and Womack (1999) provide similar evidence when analysts face conflicts of interest arising from underwriting relationships. Because most analysts issue buy-side recommendations, they do not want to antagonize their clients by possibly prematurely "crying wolf". Furthermore, firms experiencing poor performance may have an inherently higher level of uncertainty, whose resolution takes longer, which would imply a later release of information.

The notion that the nature of the news affects the communication, interaction, and information flows among managers and analysts is well documented in empirical research. Burgstahler and Eames (2006) and Matsumoto (1998) provide evidence that firms manage both earnings (upwards) and forecasts (downwards) in their effort to create good news by meeting or beating analysts' expectations. They further argue that firms manage their forecasts by deliberately biasing their communications with analysts to lower forecasts. Such forecast management can take many forms,

including but not limited to calls to analysts, and public "pre-announcements" of bad news (Kasznik and Lev, 1995, Skinner, 1994 & 1997, Bamber and Cheon, 1998) at least in qualitative terms. Firms releasing good news could be more precise than for bad news. For example, a good-news release could refer to improvements in earnings per share, whereas a bad-news release might offer only general terms (Skinner 1994). Brown (2001) contends that managers' incentives to manage earnings and analysts differ dramatically when they report losses versus profits. When reporting bad news, managers do not forewarn analysts. Degeorge et al. (1999) demonstrate the decreased (increased) communication among firms and analysts when firms report losses (profits), perhaps to reduce (increase) the frequency of bad news (good news). [24] Taken together, these characteristics suggest significant differences in good and bad news forecast environment, which can influence the properties of analysts' forecasts.

Impact of Informational Characteristics on the Variance of Analysts' Forecasts

Empirical studies document that financial analysts revise and update their forecasts in response to quarterly reports (Abdel-khalik and Espejo, 1978), management forecasts (Jennings, 1987), other analysts' forecasts (Stickel, 1990), and changes in stock prices (Brown et al., 1985). Changes in the frequency and nature of interactions with managers can influence the properties of analyst forecasts. Until recently, analysts routinely conducted informal discussions with managers on a regular basis. However, with the

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[24] Lev and Penman (1990) find that earnings forecasts, as a rule, differentiate firms with "good" annual earnings from other firms and that, on average, forecast news is "bad".

passage of SEC Regulation Fair Disclosure, this communication is not possible anymore.

Researchers have used the variance in analysts' forecasts to measure earnings predictability and the degree of consensus in the market. Imhoff and Lobo (1992) show that the *ex ante* uncertainty of earnings predictability, as captured by the variance in analysts' forecasts, correlates with the earnings response coefficient. Daley et al. (1988) indicate that the variance in analysts' forecasts correlates with the magnitude of unexpected earnings and, by implication, the ex-post variance of realized earnings. They also show that the variance in analysts' forecasts captures the *ex ante* variance of stock prices, similar to Patell and Wolfson (1979). Ziebart (1990) uses the variance measure as a surrogate for market belief consensus, which correlates positively with trading volume.

Several studies argue that variance of analysts' forecasts capture the nature of information environment that determines forecast accuracy. Brown, Richardson and Schwager 1987 construct their measure of forecast accuracy of analysts by comparing the variances of tome series forecasts and analysts forecasts. Other studies document that the accuracy of analyst forecasts is correlated with the variance (coefficient of variation/dispersion) of the analysts' forecasts (Elton, Gruber and Gultekin 1981,). Gu and Xue (2007) show that the variance of analysts' forecasts is much larger when the news is either extremely good or extremely bad. They show a U-shaped relationship between news and variance, but fail to identify that the U shape is asymmetric with larger steepness on the left (bad news) than the right (good news). A comparison of the relative magnitude of variance under good news and bad

news provides additional insights on the role of news on analysts' earnings forecast variance that our study seeks to exploit.

Definitions of Good News and Bad News Environments

Degeorge et al. (1999) consider three earnings thresholds that induce income manipulation to generate good (bad) news: meet or beat (not meet or beat) prior performance, report profits (losses), and meet or beat (not meet or beat) analysts' expectations. Because our focus is on the properties of analysts' forecasts, we could only use the first two measures. We contend that consensus (mean) forecasts (the threshold for meeting and beating expectation) and variance of analysts' forecasts may not be independent. We define *ex post* good and bad news as follows:

A. A reported increase in earnings from last year is good news, and a reported decrease is bad news.

B. A reported profit is good-news, and a reported loss is bad news.

We also consider *ex ante* definitions of good and bad news. Unlike the ex post grouping, which is based on realized earnings, the *ex ante* grouping depends on whether the expected news about the firm is good or bad. Following our earlier arguments and our definition of good-news and bad-news scenarios, we expect the variance of analysts' forecasts to be smaller in the case of good-news announcements over all, and also to be so after controlling for the level of the good (bad) news.

H1: *The variance of analysts' forecasts of annual earnings is smaller in good-news environments.*

Our interpretation of the variance in analysts' forecasts, though consistent with the literature, also posits that good and bad news information

environments lead to two distinct distributions of analyst's forecasts characterized by differential variances. We conclude that bad-news leads to a decrease in the amount of information available to analysts at the time of their forecasts. Thus, the forecast generated by financial analysts in bad-news environments is conditional on relatively less information that is likely to be noisier. The lack of news may also affect the degree of private information available to the analysts and the weights they assign to this information. Following Barron et al. (1998) and Barron et al. (2002), such lack of precision and lack of consensus would lead to a higher variance in analysts' forecasts of earnings in bad-news environments. Thus our second hypothesis follows:

> **H2:** *A smaller (larger) variance of analysts' forecasts of annual earnings is associated with a large proportion of public (private) information with the analysts.*

If consensus building takes place over time, both good and bad-news firms should exhibit a steady reduction of forecast variance over time. This could be partly due to the interim release of the mandatory quarterly earnings reports. Blackwell and Dubins (1962) show that opinions about an unknown event tend to converge as the amount of available information increases. If good-news arrives faster than bad-news, the forecast variance under good news should decrease faster over time than for bad news, at least in the early quarters. Kasznik and Lev (1995) point out that later (fourth) quarter of each year has by far the largest number of analysts' forecasts which suggests an increased rate of information arrival. Therefore, information acquisition (both private and public) is likely to be significantly more in later periods that are closer to the annual earnings announcement. We treat the fourth (later)

quarter information environment differently also because it coincides with the release of annual earnings, which are audited and more closely scrutinized. Accordingly, our hypothesis is:

> **H3:** *(i) The variance of analysts' forecasts of annual earnings declines over the year; (ii) the rate of variance reduction is higher in earlier periods for firms with good-news.*

To further exploit the role of analysts' earnings forecast variance, we examine its ability to predict future earnings. Given Hypothesis 1, the analyst earnings forecasts variance should convey information beyond the mean forecast information. Therefore, analysts earnings forecast variance should play a role in predicting earnings. However, with the passage of time and because good news arrives early, the role of variance should diminish for good-news announcements. For bad-news announcements, analysts earnings forecast variance may continue to play a role until such time when the underlying uncertainty is resolved. *Ceteris paribus*, if higher variances are associated with bad news, then the effect of increased variance on earnings forecasts should be more pronounced for firms with bad-news.

> **H4:** *For a given level of annual earnings forecast, (i) actual earnings are negatively associated with the variance of analysts' forecasts, and (ii) this association is more pronounced in the bad-news environment.*

Finally, we investigate the possible economic impact of differential analysts earnings forecast variance under the two news environments on stock returns. Though Diether et al. (2002) have documented that portfolios formed on the variance of analysts' forecasts can be used to earn positive abnormal returns, we further partition the variance levels by the nature of the expected news, and state Hypothesis 4 as follows:

> **H5:** *(i) For any news environment, the buy-and-hold stock returns will be higher for stocks with smaller forecast variance, and (ii) the largest*

arbitrage return is between the good news-low variance and the bad news-high variance portfolios.

III. DATA

Sample and Variables

We draw our data from three sources: *I/B/E/S*, Compustat, and CRSP, from 1996-2002. We use the *I/B/E/S* detail database for individual analysts' forecasts of annual earnings per share (EPS). This database provides (a) the cusip identifier, fiscal year and the reported EPS of the firm, and (b) analyst's identification code and dated forecast. We obtain quarterly and annual earnings announcement dates from the 2006 *Quarterly Compustat* files. The *Compustat* and *I/B/E/S* databases are merged to create an *initial* sample of firms with availability of both (i) analysts' forecasts, and (ii) quarterly announcement dates. In this *initial* sample, annual earnings forecasts are made at various times, from the beginning of the fiscal year[25] to the annual earnings announcement date. To ensure that a subset of forecasts are conditional on the same earnings information, we classify all forecasts into one of four pre-earnings announcement periods (PEAPs) that roughly correspond to the four fiscal quarters.

The first PEAP includes only those forecasts made *after* annual earnings announcement and *prior* to the announcement of first quarter earnings. When the first quarterly earnings announcement is delayed relative to the prior year's corresponding announcement, we delete the forecast to ensure that all forecasts use the previous year's annual earnings alone, not the inference associated with any delay in the quarterly earnings

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[25] Jan 1st for firms with December ending fiscal year.

announcement of the current quarter. In the second (third) PEAP, we include only those forecasts made *after* the announcement of first (second) quarter earnings and *prior* to either (1) the date of announcement of second (third) quarter earnings or (2) the expected earnings announcement date (determined by the previous year's corresponding quarterly announcement date), whichever is earlier. Finally, the fourth PEAP includes only those forecasts made *after* the announcement of third quarter earnings and *prior* to the announcement of annual earnings or the expected earnings announcement date (determined by the previous years' annual announcement date), whichever is earlier. Thus, the four PEAPs represent four disjointed time periods, with potential discontinuities, between the two annual earnings announcement dates.

The sample includes all forecasts for a firm in a given PEAP-year. To avoid dependency induced by an analyst issuing multiple forecasts in a PEAP-year, we select only the last forecast of an analyst in each PEAP-year for a firm. Furthermore, we require *at least* four distinct analysts' forecasts in each PEAP-year. To ensure that there are enough years of data for each firm, we retain only those firms that have at least full 7 years of data over the period examined. Finally, we delete firms in the financial services and utilities services industries because these industries are regulated. These sample selection constraints result in a *final* sample with 12,368 PEAP-years for 334 firms. We compute the mean, M_{itp}, and variance, V_{itp}, of analysts' forecasts for each firm PEAP-year.

IV. RESEARCH DESIGN AND EMPIRICAL RESULTS

In this section, we explain and present the multivariate tests of our hypotheses. To ensure that firm-specific factors, such as relative beta risk, size, and industry-specific characteristics, do not drive differences in variances, we include a separate dummy variable for each firm in our specification.   By providing this explicit control, we capture firm-specific differences through the dummy variable coefficients. Because we cover a 10-year period, variations in macroeconomic factors could confound our findings. We control for these time-specific effects by including a dummy variable for each year. In addition, a dummy for earnings quarter was included for tests involving differences across PEAPs.   Unless stated otherwise, all of the specifications tested share these common control variables.

Good News and Bad News Measures

We construct indicator variables corresponding to the two *ex post* and the two *ex ante* definitions of good-news and bad-news. Using definitions A and B, outlined in Section 2, the ex post indicator variable for good-news, GN, is constructed as follows:

A. GN_{it} = 1   if $E_{it} \geq E_{it-1}$ (If current year earnings
            0   otherwise   exceed   previous   year
                                                    earnings)

B. GN_{it} = 1   if $E_{it} \geq 0$ (If profits are reported in
the
            0   otherwise   current year)

BN_{it}, is the complementary indicator variable for bad-news announcements.   In contrast to *ex post* definitions, the e*x ante* definitions proxy for the market's expectation of good-news or bad-

964

news during each PEAP. We compute the mean of all analysts' forecasts in each PEAP as an estimate of the markets' expectation. If the mean of firm i in year t and PEAP p, M_{itp}, equals or exceeds (is less than) that firms' previous years' earnings, E_{it-1}, we infer that the market expects current years' earnings to be higher (lower) than the previous year's earnings. If M_{itp} is equal or greater (less) than 0, we infer the market expectation to be that the firm will report profits (loses). These indicator variables, denoted as C & D, provide *ex ante* version of good news and bad news defined as A and B.

C. GN_{itp} = 1   if $M_{itp} \geq E_{it-1}$ (If current year earnings are

        0   otherwise   expected to exceed previous year earnings)

D. GN_{itp} = 1   if $M_{itp} \geq 0$ (If the firm expects to report

        0   otherwise   profits in the current year)

Under definitions C&D, the news expectation can change from PEAP to PEAP. This allows for the same firm to be classified as expecting good-news in one PEAP and bad news in another. These definitions contrast with definitions A&B, where a firm is classified into the same news category for all four PEAPs of the year.

Descriptive Statistics

In Table 1, we present the industry distribution and descriptive statistics for the sample. Panel A provides evidence that our data is well represented and all of the major industries are included in our sample. As per Table 1, Panel B, total assets (Compustat item #44) vary from \$30,016 million to \$527,715 million, consistent with representation of mostly large firms in the

sample. Average firm ROA, income before extraordinary items (Compustat data item #8) to average total assets, varies from 3.30 to 24.10 percent. The mean (median) return on equity (ROE), computed as the ratio of income before extraordinary items to total stockholders' equity (Compustat data item #60), is 13.31% (13.01%). The mean of earnings per share (Compustat data item #11) is $1.46 and the maximum EPS is $35.00. Market value of equity is calculated by multiplying number of shares outstanding (Compustat data item #15) by the closing price on the 3rd month of the quarter (Compustat data item #14). The mean (median) market capitalization is $15,731 ($4,473) million.

Table 2 presents the variance of analyst forecasts for the two *ex post* and the two *ex ante* definitions of good-news, by year and PEAP. Also presented are the results of the univariate tests of difference in the mean analysts' forecast variances under the good-news and the bad-news environments. Under all four definitions (A-D), our tests indicate that in all 11 yearly comparisons (100%), the variance is smaller for the good-news announcements, with 10 (9) out 11 differences statistically significant at 0.01 level or better for definitions A-C (D). To ensure that these results are not driven by any particular PEAP, we also test for difference in variances in good-news and bad-news environments across PEAPs. For all four definitions, the variance in good-news environments is significantly smaller than the variance in bad-news environments for each PEAP (1-4). Based on this univariate analysis, the variance of analysts' forecasts is significantly smaller for firms expecting good news than for firms expecting bad news for all eleven yearly comparisons and all four PEAP comparisons.

Test of Hypothesis 1 (Association of nature of news and the forecast variance)

As per Hypothesis 1, the variance of analyst forecasts should be *lower* when the current year's earnings convey good news. We test this hypothesis by regressing analyst forecast variance on dummy variables corresponding to good and bad news, after controlling for the firm, year and PEAP effects using the dummy variables (and suppressing the intercept term) as follows:

$$\tilde{V}_{itp} = \sum_{i=1}^{I-1} \mu_i F_i + \sum_{t=1}^{T-1} \sigma_t Y_t + \sum_{p=1}^{P-1} \gamma_p P_p + \beta_1 GN_{it} + \beta_2 BN_{it} + \tilde{\varepsilon}_{itp} \tag{1}$$

where F_i, Y_t, and P_p denote dummy variables corresponding to firms, years, and PEAPs, respectively, and μ_i, σ_t, and γ_p are the corresponding parameters. I, T and P denote the number of firms, years and PEAPs. β_1 and β_2 represent average variance for good news and bad news firms. To make comparisons of analysts' forecasts variance under good news and bad news, a test of the null hypothesis of the equality of β_1 and β_2 is conducted against the directional alternate that $\beta_1 < \beta_2$. Estimation results for (1) appear in Table-3. Due to a large number of parameters in the model, we only present the parameters of interest (β_1 and β_2), but compute F-statistics on the test of equality of the subset of coefficients corresponding to firm, year and PEAP to evaluate the effectiveness of these controls. In each of the estimations of (1) reported in the table, the F-statistics corresponding to the firm, year and PEAP effects were significant, justifying these controls. The results are first presented for the pooled sample, and then separately for each PEAP.

In the estimation involving data pooled over all PEAPS for firms reporting increasing profits (definition A), the coefficient for the good-news

dummy is 0.02 while the coefficient for the bad-news dummy is 0.06. Even though the individual coefficients are not, the difference in these coefficients is significantly different from zero at conventional levels of significance (0.05 or better). Similar findings are obtained when analysis is performed over PEAPS. For PEAP 1 (2, 3, 4) the coefficients for the good news and bad-news dummies are 0.03 (0.02, 0.007, 0.01) and 0.06 (0.05, 0.07, 0.04), respectively. For each PEAP, the magnitude of the parameter estimate of good-news dummy is significantly smaller than that of the bad-news dummy. These results provide supporting evidence for Hypothesis-1. For firms reporting profits, we get similar results and draw the same conclusions. At the pooled level, the coefficient on the good-news dummy is 0.03 which is significantly smaller than the coefficient for the bad-news dummy, 0.14. For PEAP 1 (2, 3, 4) the coefficient for the good news dummy 0.03 (0.03, 0.02, 0.02) is significantly smaller than the corresponding coefficient for bad-news 0.15 (0.16, 0.16, 0.08).

For firms expecting higher profits in the current year compared to previous years' profits (ex ante definition C), the estimated coefficient for the good-news dummy is 0.02 and that for the bad-news dummy is 0.05 for the pooled data. Our test rejects the null hypothesis of equality of these two coefficients at conventional levels of significance (0.05 or better). For PEAP 1 (2, 3, 4) the coefficient for the good news dummy, 0.04, (0.02, 0.01, 0.02) is *significantly* smaller than the corresponding coefficient for the bad-news dummy 0.06 (0.05, 0.06, 0.04) ($p < 0.01$). Similar results are obtained when we consider firms expected to report profits (definition D). For the pooled sample, the coefficient on the good-news dummy is 0.02, significantly smaller

than the coefficient for the bad-news dummy that equals 0.14, and we reject the test of equality at conventional levels of significance (0.05 or better). For PEAP 1 (2, 3, 4) the coefficient for the good news dummy 0.02 (0.03, 0.02, 0.02) is significantly smaller than for the bad-news dummy 0.17(0.20, 0.18, 0.09) at conventional levels of significance (0.05 or better). Collectively, our results provide evidence that the variance of analysts' forecasts is smaller under good news environments.

In order to verify whether the size of the news affect our result, we partition our data into four quartiles for each PEAP and run our tests. Though the quartiles with extreme news have a higher variance than those in the middle, we show that for each comparable quartile, the good news variances are lower than those of bad news. (discuss the table - - to be written))

Test of Hypothesis 2 (More private (public) information with larger variances) (to be written)

Tests of Hypothesis 3 (Variance reduction over time)

Hypothesis-3 suggests that early consensus building occurs when firms expect good news and the consensus building is delayed for bad news. Given faster resolution of uncertainties for good news firms, we expect the rate of decline in forecast variance for good-news firms to be higher than for bad-news firms. We test this by estimating the following equation:

$$\tilde{V}_{itp} = \sum_{i=1}^{I-1} \mu_i F_i + \sum_{t=1}^{T-1} \sigma_t Y_t + \rho_g V_{itp-1} GN_{it} + \rho_b V_{itp-1} BN_{it} + \tilde{\varepsilon}_{itp} \qquad (2)$$

Estimation of equation (2) involves regression of V_{itp} on V_{itp-1} for good- and bad-news firms after controlling for firm and year fixed effects. Because the

lagged variance is a right hand side variable, equation (1) can be estimated using the data for PEAPS 2-4 only. The model is estimated separately for each PEAP because we are interested in the reduction of variance over-time and our predictions vary over PEAPS. In this specification, we expect both ρ_g and ρ_b, to be less than one, consistent with reduction of variance of forecasts over time. A lower value of the coefficient of prior period variance ($\rho\square$, implies a faster reduction of variance over time. We expect ρ_b to be larger than ρ_g in the earlier PEAPS and ρ_b to be smaller than $\rho_{g,}$ in the later PEAPs[26].

Results from the estimation of equation (2) for all four definitions are presented in Table 4. The estimated coefficient of ρ_g varies from 0.37 (PEAP 4, definition C) to 0.74 (PEAP 1, definitions A&C), and that of ρ_b varies from 0.23 (PEAP 4, definition B) to 1.04 (PEAP 3, definitions A&C). All the coefficients are significantly smaller than *one* at the conventional levels of significance (0.01 or better), except for PEAP 3 (under definitions A&C). However, this estimate is not significantly larger than *one* consistent with the view that the variance is not increasing. The conclusion from these results is that the variance either decreases or remains same for each PEAP, for all news types.

To test for the relative rates of variance reduction under good news and bad news scenarios, we compare the magnitudes of ρ_g and ρ_b in each PEAP. For PEAPs two three and four, the respective estimates of ρ_g (ρ_b) are 0.74 (0.67), 0.41 (1.04) and 0.44 (0.27) under definition A, 0.61 (0.77), 0.59 (0.71) and 0.48 (0.23) under definition B, 0.74 (0.78), 0.43 (1.04), and 0.37 (0.26) under definition C, and 0.59 (0.77), 0.48 (0.75) and 0.45 (0.24) under

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[26] This is because the total reduction of variance is expected to be same for all firms, on average.

definition D. A pair-wise comparison shows that for all four definitions, the rate of variance reduction is significantly higher for good news firms ($\rho_g < \rho_b$) in PEAPs 2 and 3, but the rate of variance reduction is faster for bad news firms ($\rho_b < \rho_g$) in PEAP 4. The only exception is PEAP 2 under definition A in which the variance reduction is faster for firms with bad news ($\rho_b < \rho_g$).

Collectively, the finding is that variance reduces at a faster rate for firms with good news in the earlier PEAPS. However, in PEAP 4, the variance reduces at a faster rate for firms with bad news because consensus is built amongst analysts about the upcoming bad news about the firm either through the private information acquisition and its dissemination in prices or because delay of news is accepted by all analysts as a precursor to the arrival of bad news, or because of voluntary release by the management. These results provide support for our hypothesis.

Tests of Hypothesis 4 (Earnings Predictions)

Hypothesis-4 suggests that actual earnings should be lower when the variance of analysts' forecasts is higher. Furthermore, the association between news and variance is stronger for firms with bad news after controlling for analysts' forecasts, nature of the expected news and the firm and year effects. We test this hypothesis by regressing earnings on the mean and variance of analysts' forecasts of earnings, with a separate parameter for the good-news and bad-news firms as follows:

$$\tilde{E}_{it} = \sum_{i=1}^{I-1} \mu_i F_i + \sum_{t=1}^{T-1} \sigma_t Y_t + \rho_{gp}(M_{itp} * GN_{it}) + \rho_{bp}(M_{itp} * BN_{it}) + \tau_{gp}(V_{itp} * GN_{it}) + \tau_{bp}(V_{itp} * BN_{it}) + \tilde{\varepsilon}_{it} \qquad (3)$$

Table 5 presents results based on two ex ante definitions (C&D). The F-statistics for the goodness of fit of the models are significant for all PEAPs.

The predictive ability of the models also increases over time as adjusted R^2 increases from PEAP one through PEAP four. This finding is consistent with the notion that arrival of news over time explains larger portion of cross-sectional variation in reported earnings. In this specification, ρ_{gp} (ρ_{bp}) are the estimated parameters for the mean forecasts of the firm in PEAP p. An estimate of ρ less (greater) than *one* is consistent with optimism (pessimism) in the forecasts, and $\rho=1$ is reflects no bias in the forecasts.[27] For PEAPs one, two, three and four, the respective estimates of ρ_{gp} (ρ_{bp}) are 0.93 (0.89), 1.02 (0.97), 1.03 (1.04), and 0.97 (0.96) under definition C, and 1.02 (0.76), 1.02 (1.03), 1.00 (1.03) and 1.01 (0.91) under definition D. In each of these pairs, the estimate of ρ_{gp} is closer to one than the estimate of ρ_{bp}, consistent with smaller forecast errors for good news firms in each PEAP for both the definitions. Though no clear predictions are made about changes in ρ_{bp} over PEAPs, pessimism will get embedded in forecasts for firms expecting bad news because of late arrival of news. Under both the definitions, there is optimism for firms expecting bad news in PEAP 1. However, with the passage of time, the optimism changes to pessimism. The coefficient of ρ_{bp} gradually increases from 0.89 (0.76) to 0.97 (1.03) to 1.04 (1.03) when moving from PEAP one to two to three under definition C (D).

For PEAPs one, two, three and four, the respective estimates of τ_{gp} (τ_{bp}), the coefficients for the variance of analysts' forecast variable for firms expecting good (bad) news, are -0.05 (-0.09), -0.01 (-0.11), -0.04 (-0.14), and 0.005 (-0.17) under definition C, and -0.08 (-0.17), -0.07 (-0.13), -0.07 (-0.38), and -0.001 (-0.12) under definition D. For the bad (good) news firms, all (7

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[27] We also estimate a more conventional specification of forecast error model by subtracting the mean forecast from the actual earnings, and regress it on the remaining variables in equation (3). The results (not reported) provide similar interpretation.

out of 8) estimates are negative, with seven (four) out of eight significantly less than zero. These finding are indicative of smaller earnings when the variance is higher, especially for firms with bad news. A temporal analysis of the role of variance in bad news scenarios indicates that the role of variance keeps getting more prominent as evidenced by the increase in the absolute value of τ_{bp} (from -0.09 to -0.11 to -0.14 to -0.17) under definition C with three out of four estimates significantly smaller than zero. Under definition D, all four estimates (-0.17, -0.13, -0.38 and -0.12) are negative and significant, consistent with variance playing a role in all time periods.

A pair-wise comparison shows that the absolute value of τ_{gp} is always smaller than the absolute value of τ_{bp} with four out eight differences significantly smaller than zero. Collectively, these results point to smaller earnings when the variance is high, especially for firms expecting bad news. These results provide support for our hypothesis that high variance is associated with lower earnings and that variance plays a stronger role for firms with bad news. In sum, we conclude that variance is an important factor in predicting earnings and that there are significant differences in the role of forecast variance in good-news and bad-news scenarios.

Test of Hypothesis 5 (Portfolio Returns)

To examine the economic significance of the improvement in earnings forecasts by incorporating forecast variances, arbitrage portfolios are constructed on the basis of the nature of the news and the variance of analysts' forecasts. The abnormal returns from these arbitrage portfolios become another basis for evaluating the usefulness of the information in analysts' forecast variance. Since our evidence suggests systematic

973

difference of forecast variance as early as the first PEAP, we begin construction of our arbitrage portfolio based on the variance of forecasts at the end of first PEAP and then liquidate our positions at the year end. We perform the same exercise at the end of PEAP 2, 3, and 4. At the end of each PEAP, we form four portfolios based on the quartiles of the distribution of the variances. This strategy captures returns for three (two and one) quarters because positions created after PEAP 1 (2 and 3) have only three (2 and 1) quarters remaining before the year end. For the portfolios constructed at the end of PEAP 4, we hold the portfolio till the end of the following year (for four quarters) and liquidate our position at the end of the following year. Since the objective is to examine the economic significance of forecast improvement based on the variances, only the *ex ante* measures are reported. First, we classify firms into good news and bad news based on our *ex ante* definitions (C&D) and rank them by variances from high to low within each group. This way we create four portfolios: good news & high variance, good news & low variance, bad news & high variance and bad news & low variance.

After the formation of portfolios, we implement three trading strategies. For the first trading strategy, we buy good news & low variance stocks and hold them till the year-end and calculate the average raw returns. We also calculate the average raw returns for a good news & high variance portfolio. The difference in raw returns between these two portfolios represents our measure of arbitrage return for this trading strategy. For the second trading strategy, we buy and hold the firms with bad news & low variance, calculate the raw return at the end of the year, and subtract from this the returns on the portfolio with bad news & high variance. Finally, the third trading strategy

974

creates the arbitrage return measure by subtracting the buy and hold returns of the bad news & high variance portfolio from those of the good news & low variance portfolio. We use raw returns because the market return factor that would be common for all portfolios would cancel out in our arbitrage returns measure.

Table 6 presents the results of the three trading strategies for the two different ex ante definitions of good news and bad news for the four portfolio holding periods. For each trading strategy, there are positive abnormal returns based on the variance as well as the nature of the news. The difference in the low and high variance portfolios with *good* news is 0.0583 (0.0272, 0.0063 and 0.0517) for definition C and 0.055 (0.025, 0.0133, and 0.0686) for definition D for the four holding periods. Similarly the difference in the low and high variance portfolios with *bad* news is -0.0068 (-0.005, 0.0534 and 0.14) for definition C and 0.139 (-0.0437, 0.0594, and 0.13) for definition D for the four holding periods. Seven (one) positive differences out of the total eight are significant at conventional levels of significance (0.05 or better) for the good (bad) news firms. None of the negative differences are significant. Thus, variance seems to play a more significant role for firms with good news than those with bad news. We conclude from these results that, in general, high variance portfolios have lower returns than low variance portfolios after controlling for the nature of the expected news.

As per Hypothesis 4, the third trading strategy (good news & low variance versus bad news & high variance) should generate highest returns. Under definition C, this strategy provides highest returns for three out of the 4 holding periods. The only exception is the full one year return, where other

975

confounding factors could have diluted the effect. However, under definition D, we do not find support for the argument that good news & low variance and bad news & high variance should generate highest returns. The highest returns are for the good news firms with low and high variance. Overall, our results are consistent with the hypothesis that abnormal returns can be obtained when the variance of analysts' forecasts are conditional upon the good-news and bad-news scenarios. These results also provide insights into the findings of Diether et al. (2002) that abnormal returns based on variance are driven mostly by the firms expecting good news.

5. DISCUSSION AND CONCLUDING REMARKS

Consistent with the notion that significantly increased informational uncertainties mark a bad news environment compared with a good news environment, we find a greater variance in analysts' forecasts in all bad news environments. Although this finding is consistent with the notion of managers' differential incentives to select information release timing, alternative explanations do not enable us to arrive at such a conclusion. Instead, our evidence indicates that such strategic behavior, if any, affects the informational uncertainty of the forecast environment, as well as the forecasts issued during at least the first three quarters of the fiscal year. To the extent our results are driven by management's tendency to withhold bad news, our results indicate that even if there were alternative information sources, these alternative sources do not seem to act as credible substitutes for the firm management during this period. We also provide some evidence that differential distributional properties of the forecasts, specifically the conditional

variance, under good-news and bad-news environments have incremental predictive power for predicting earnings levels.

Our evidence is also consistent with the idea that the distributions of analysts' earnings forecasts are significantly different in good news or a bad news environment. This finding has some implication for any study that assumes analysts' forecast variances represent random variables from a single population. Our evidence indicates a need to consider forecast variances conditioned on good news and bad news. The existence of arbitrage return for portfolios constructed with analyst forecast variance is consistent with the predictive power of forecast variances of annual earnings. We refrain from making any conclusions regarding market efficiency because these returns do not consider factors such as transaction costs. Future research is needed in these areas.

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Table 1

Industry affiliation and descriptive statistics on the firms included in the sample[1]

Panel A: Industry Distribution

Two -Digit SIC Code	Industry Description	Number of Firms
10	Gold and Silver	11
13	Crude Petroleum and Natural Gas	28
28	Pharmaceutical Preparations	37
36	Telephone and Telegraph Apparatus	26
37	Rail Road Equipment	15
63	Hospital and Medical Plans	18
Other		199
Total Firms		334

Panel B: Descriptive statistics computed over firm-years included in the sample

	Mean	Standard Deviation	Median	Minimum	Maximum
Total Assets	30,016	108,122	4,765	136	527,715
Total Equity	4.803	10,783	1,640	127	63,706
Market Value	15,731	35,509	4,473	177	192,472
Income before extra ordinary items	708.82	2,246	184	-1,536	10,270
Earnings Per Share	1.46	2.42	1.29	-4.00	35.00
Return on Assets	3.30%	15.49%	4.02%	-42.00%	24.10%
Return on Equity	13.13%	19.30%	13.01%	-25.80%	39.50%

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[1] For inclusion in the sample, the firm must have analysts' forecast variance data for *all* four PEAPs of the year over a minimum of seven years during the period, 1996-2006. Analysts forecast variance is computed for firms with a minimum of four distinct analysts' forecasts in any pre-earnings announcement period (PEAP).

Table 2

Analyst forecast variance for the two *ex post* and two *ex ante* definitions of good-news and bad-news, by year and PEAP. *Ex post* good news is defined as meeting or exceeding previous years' earnings (A), or as reporting profits (B). *Ex ante* good news is when the mean of analyst earnings forecasts exceeds previous years' earnings (C) or the mean of analysts' earnings forecasts exceeds zero (D). Bad news is defined as the absence of good news.

Year	Good-News Definitions (ex post)								Good-News Definitions (ex ante)							
	Exceeding Previous Years' Earning (A)				Reporting Profits (B)				Expected to Exceed Previous Years' Earning (C)				Expected to Report Profits (D)			
	Bad-News	Good-News	Bad News-Good News		Bad-News	Good-News	Bad News-Good News		Bad-News	Good-News	Bad News-Good News		Bad-News	Good-News	Bad News-Good News	
1996	0.09	0.06	0.03	***	0.17	0.09	0.08	***	0.1	0.06	0.04	***	0.16	0.09	0.08	***
1997	0.1	0.07	0.03	***	0.14	0.07	0.06	***	0.11	0.07	0.04	***	0.12	0.08	0.04	
1998	0.13	0.06	0.07	***	0.21	0.07	0.14	***	0.14	0.07	0.07	***	0.13	0.08	0.05	***
1999	0.12	0.06	0.07	***	0.15	0.07	0.08	***	0.14	0.06	0.08	***	0.14	0.07	0.07	***
2000	0.19	0.08	0.11	***	0.11	0.09	0.02		0.18	0.09	0.09	***	0.12	0.10	0.02	
2001	0.20	0.07	0.13	***	0.38	0.09	0.28	***	0.2	0.08	0.12	***	0.37	0.11	0.26	***
2002	0.13	0.08	0.05	***	0.28	0.07	0.20	***	0.11	0.09	0.02		0.30	0.07	0.22	***
2003	0.13	0.1	0.02		0.31	0.08	0.22	***	0.15	0.1	0.04	***	0.33	0.09	0.23	***
2004	0.15	0.01	0.05	***	0.25	0.09	0.15	***	0.15	0.1	0.05	***	0.28	0.09	0.17	***
2005	0.22	0.13	0.09	***	0.35	0.14	0.21	***	0.2	0.14	0.06	***	0.35	0.14	0.21	***
2006	0.23	0.14	0.09	***	0.34	0.17	0.17	***	0.21	0.16	0.05	***	0.47	0.16	0.30	***
Positive			100 %				100 %				100 %				100 %	
PEAP 1	0.21	0.12	0.08	***	0.34	0.13	0.20	***	0.21	0.14	0.07	***	0.35	0.13	0.21	***
PEAP 2	0.18	0.11	0.07	***	0.31	0.11	0.20	***	0.18	0.11	0.07	***	0.34	0.11	0.23	***
PEAP 3	0.17	0.08	0.08	***	0.28	0.09	0.16	***	0.17	0.09	0.07	***	0.3	0.10	0.23	***
PEAP 4	0.11	0.06	0.05	***	0.16	0.06	0.09	***	0.11	0.07	0.05	***	0.17	0.07	0.10	***
Positive			100 %				100 %				100 %				100 %	

Table 3

Results from the regression of analyst forecast variance on dummy variables corresponding to firm, year, PEAP, good news and bad news, by news type. Good news is defined as meeting previous years' earnings (A) or reporting profits (B), when the mean of analyst earnings forecasts exceeds previous years' earnings (C) or the mean of analysts' earnings forecasts exceeds zero (D). The coefficients for dummy variables corresponding to firm, year, and PEAP are not reported. All three effects are significant in each estimation.

$$\tilde{V}_{itp} = \sum_{i=1}^{I-1} \mu_i F_i + \sum_{t=1}^{T-1} \sigma_t Y_t + \rho_g V_{itp-1} GN_{it} + \rho_b V_{itp-1} BN_{it} + \tilde{\varepsilon}_{itp}$$

(1)

PEAP		Exceeding Previous Years' Earning (A)		Reporting Profits (B)		Expected to Exceed Previous Years' Earnings (C)		Expected to Report Profits (D)	
ALL	Good–News Dummy	0.02		0.03		0.02		0.02	
	Bad–News Dummy	0.06		0.14	***	0.05		0.14	***
	Firm–Years	12,269		12,369		10,744		12,076	
	Adjusted R^2	55.96	%	56.65	%	56.93	%	56.13	%
	Goodness Of Fit	42.52	***	43.1	***	41.21	***	44.98	***
	$\beta_1 = \beta_2$	116.68	***	256.23	***	29.26	***	209.81	***
1	Good–News Dummy	0.03		0.03		0.04		0.02	
	Bad–News Dummy	0.06		0.15	***	0.06		0.17	***
	Firm–Years	3,068		3,093		2,686		3,019	
	Adjusted R^2	70.74	%	71.58	%	72.72	%	71.17	%
	Goodness Of Fit	18.42	***	18.85	***	18.77	***	19.84	***
	$\beta_1 = \beta_2$	26.6	***	84.71	***	5.38	***	82.59	***
2	Good–News Dummy	0.02		0.03		0.02		0.03	
	Bad–News Dummy	0.05		0.16	***	0.05		0.2	***
	Firm–Years	3,067		3,092		2,686		3,019	
	Adjusted R^2	67.57	%	68.72	%	68.68	%	68.77	%
	Goodness Of Fit	15.91	***	16.51	***	15.44	***	17.17	***
	$\beta_1 = \beta_2$	25.19	***	109	***	11.08	***	140.27	***
3	Good–News Dummy	0.007		0.02		0.01		0.02	
	Bad–News Dummy	0.07		0.16	***	0.06		0.18	***
	Firm–Years	3,067		3,092		2,686		3,019	
	Adjusted R^2	50.21	%	50.72	%	51.24	%	50.54	%
	Goodness Of Fit	7.7	***	7.73	***	7.4	***	8.21	***
	$\beta_1 = \beta_2$	43.93	***	61.42	***	17.73	***	70.68	***
4	Good–News Dummy	0.01		0.02		0.02		0.02	
	Bad–News Dummy	0.04		0.08	*	0.04		0.09	***
	Firm–Years	3,067		3,092		2,686		3,019	
	Adjusted R^2	48.84	%	49.23	%	49.57	%	48.62	%
	Goodness Of Fit	7.29	***	7.29	***	6.92	***	7.61	***
	$\beta_1 = \beta_2$	24.12	***	26.81	***	16.69	***	31.35	***

TABLE 4

Results from the regression of analyst forecast variance on its PEAP lagged values interacted with dummy variables for good news and bad news, after controlling for firm and year effects. Good news is defined as meeting previous years' earnings (A) or reporting profits (B), when the mean of analyst earnings forecasts exceeds previous years' earnings (C) or the mean of analysts' earnings forecasts exceeds zero (D). The coefficients for dummy variables corresponding to firm, year, and PEAP are not reported. Tests of the significance of firm, year and PEAP effects were all significant.

$$\tilde{V}_{itp} = \sum_{i=1}^{I-1}\mu_i F_i + \sum_{t=1}^{T-1}\sigma_t Y_t + \rho_g V_{itp-1}GN_{it} + \rho_b V_{itp-1}BN_{it} + \tilde{\varepsilon}_{itp}$$

(2)

PEAP	Model Details	Exceeding Previous years' earnings (A)		Reporting Profits (B)		Expected to Exceed Previous Years' Earnings (C)		Expected to Report Profits (D)	
	ρ_g	0.74	***	0.61	***	0.74	***	0.59	***
	ρ_b	0.67	***	0.77	***	0.78	***	0.77	***
	Observations	3,093		3,093		2,686		3,019	
	Adjusted R^2	83.83	%	84.27	%	83.75	%	84.3	%
2	Model F statistics	48.48	***	50.46	***	42.33	***	49.38	***
	Test of Hypothesis								
	$\rho_g = 1$	334.26	***	621.37	***	282.6	***	563.88	***
	$\rho_b = 1$	526.86	***	276.77	***	354.49	***	297.89	***
	$\rho_b = \rho_g$	24.64	***	97.87	***	8.06	***	101.23	***
	ρg	0.41	***	0.59	***	0.43	***	0.48	***
	ρb	1.04	***	0.71	***	1.04	***	0.75	***
	Observations	3,093		3,093		2,686		3,019	
	Adjusted R2	65.09	%	57.04	%	63.57	%	57.59	%
3	Model F statistics	18.07	***	13.25	***	14.99	***	13.24	***
	Test of Hypothesis								
	$\rho_g = 1$	675.26	***	168.89	***	517.7	***	268.96	***
	$\rho_b = 1$	2.99		136.03	***	2.52		99.32	***
	$\rho_b = \rho_g$	653.99	***	11.69	***	478.31	***	65.77	***
	ρg	0.44	***	0.48	***	0.37	***	0.45	***
	ρb	0.27	***	0.23	***	0.26	***	0.24	***
	Observations	3,093		3,093		2,686		3,019	
	Adjusted R2	53.56	%	54.94	%	52.63	%	54.3	%
4	Model F statistics	11.56	***	12.25	***	9.91	***	11.71	***
	Test of Hypothesis								
	$\rho_g = 1$	609.78	***	707.73	***	637.03	***	698.11	***
	$\rho_b = 1$	4101.68	***	4095.66	***	3546.64	***	4058.6	***
	$\rho_b = \rho_g$	60.17	***	143.17	***	19.24	***	96.38	***

Table 5

Results from the regression of annual earnings on dummy variables corresponding to firm and year, and mean and variance of analysts' forecasts for firms with expected good news and expected bad news, by PEAP. Good news is defined as mean analyst earnings expectation exceeding previous years' earnings (C) or mean analyst earnings expectation exceeding zero (D). Bad news definition is complementary to the good news definition. The coefficients for dummy variables corresponding to firm, year, and PEAP are not reported. Tests of the significance of firm, year and PEAP effects were all significant.

$$\tilde{E}_{it} = \sum_{i=1}^{I-1}\mu_i F_i + \sum_{t=1}^{T-1}\sigma_t Y_t + \rho_{gp}(M_{itp}*GN_{it}) + \rho_{bp}(M_{itp}*BN_{it}) + \tau_{gp}(V_{itp}*GN_{it}) + \tau_{bp}(V_{itp}*BN_{it}) + \tilde{\varepsilon}_{it} \qquad (3)$$

PEAP	Variables	Expected to Exceed Previous Years' Earnings (C)		Expected to Report Profits (D)	
1	ρ_{gp}	0.93	***	1.02	***
	ρ_{bp}	0.89	***	0.76	***
	τ_{gp}	−0.05		−0.08	***
	τ_{bp}	−0.09	***	−0.17	***
	Observations	2,686		3,019	
	H$_0$: $\tau_{gp}=\tau_{bp}$	1.03		1.37	
2	ρ_{gp}	1.02	***	1.02	***
	ρ_{bp}	0.97	***	1.03	***
	τ_{gp}	−0.01		−0.07	***
	τ_{bp}	−0.11	***	−0.13	***
	Observations	2,686		3,019	
	H$_0$: $\tau_{gp}=\tau_{bp}$	11.69	***	1.05	
3	ρ_{gp}	1.03	***	1	***
	ρ_{bp}	1.04	***	1.03	***
	τ_{gp}	−0.04	***	−0.07	***
	τ_{bp}	−0.14	***	−0.38	***
	Observations	2,686		3,019	
	H$_0$: $\tau_{gp}=\tau_{bp}$	25.11	***	83.22	***
4	ρ_{gp}	0.97	***	1.01	***
	ρ_{bp}	0.96	***	0.91	***
	τ_{gp}	0.005		−0.001	
	τ_{bp}	−0.17		−0.12	***
	Observations	2,686		3,019	
	H$_0$: $\tau_{gp}=\tau_{bp}$	1.93		21.4	***

Table 6

Buy and hold returns on portfolios of stocks constructed at the end of each PEAP on basis of standard deviation of analysts' forecasts of earnings during that PEAP. Firms are classified into low and high standard deviation on the basis of their variance quartile. Reported are the raw returns computed by holding the stocks over the remaining fiscal year. Analysis is performed for the two *ex ante* definitions – Mean Analyst Earnings Expectation Exceeding Previous Years Earnings (Panel A) and Mean Analyst Earnings Expectation Exceeding Zero (Panel B). Bad News definition is complementary to the Good News definition.

PANEL A: Earnings Expected to Exceed Previous Years' Earnings (C)

Portfolio Holding Period	PORTFOLIO-1				PORTFOLIO-2				PORTFOLIO-3			
	Good News & Low Variance	Good News & High Variance	Difference		Bad News & Low Variance	Bad News & High Variance	Difference		Good News & Low Variance	Bad News & High Variance	Difference	
PEAP1- Year End	0.1574	0.0991	0.0583	***	0.0880	0.0948	-0.0068		0.1574	0.0948	0.0626	***
PEAP2-Year End	0.1119	0.0847	0.0272	***	0.0600	0.0650	-0.0050		0.1190	0.0650	0.0540	***
PEAP3-Year End	0.0882	0.0819	0.0063		0.1334	0.0800	0.0534		0.0882	0.0800	0.0082	
PEAP4-Year End$_{t+1}$	0.1707	0.119	0.0517	***	0.2100	0.0700	0.1400	***	0.1707	0.0725	0.0982	***

PANEL B: Expected to Report Profits (D)

Portfolio Holding Period	Good News & Low Variance	Good News & High Variance	Difference		Bad News & Low Variance	Bad News & High Variance	Difference		Good News & Low Variance	Bad News & High Variance	Difference	
PEAP1- Year End	0.1481	0.0931	0.0550	***	0.2396	0.1006	0.1390		0.1481	0.1006	0.0475	
PEAP2-Year End	0.1048	0.0798	0.0250	***	0.0663	0.1100	-0.0437		0.1048	0.1100	-0.0052	
PEAP3-Year End	0.0913	0.0780	0.0133	**	0.1509	0.0915	0.0594		0.0913	0.0915	-0.0002	
PEAP4-Year End$_{t+1}$	0.1887	0.1201	0.0686	***	0.2169	0.0869	0.1300		0.1887	0.0869	0.1018	***

PUBLIC DISCLOSURE, PRIVATE INFORMATION, AND INVESTMENT EFFICIENCY

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Abstract

This paper investigates how and when the quality of accounting information improves firm investment efficiency. In particular, we focus on the role of public disclosure in forming more efficient security prices and thereby improving firm investment. Using a stock market model that incorporates managerial investment decisions, we show in general that higher quality accounting information generally improves investment efficiency by reducing information asymmetries, and this is consistent with recent empirical findings.

Key Words: public disclosure, private information, investment efficiency, information asymmetry, market liquidity

1. Introduction

This paper investigates how and when the quality of accounting information improves firm investment efficiency using a stock market model that incorporates managerial investment decisions. In particular, we focus on the role of public disclosure in forming more efficient security prices and thereby improving firm investment. Recent empirical research suggests that higher quality financial reporting improves capital investment efficiency by reducing information asymmetries. For example, Biddle and Hilary (2006) examine how accounting quality relates to capital investment efficiency, and empirically find that higher quality accounting enhances investment efficiency by reducing information asymmetry between managers and outside suppliers of capital. Similarly, Biddle et al. (2008) find that higher quality financial reporting enhances investment efficiency. In particular, they find a negative

association between financial reporting quality and investment in firms operating in settings prone to overinvestment. However, financial reporting quality and investment are positively associated for firms operating in settings prone to underinvestment. These findings suggest that accounting information quality improves the economic performance of firms.[140]

However, high-quality public disclosure may not improve investment efficiency. For example, stock prices may not be an adequate indicator upon which we could base compensation to reward managerial effort. Recent corporate crises indicate that stock-based compensation distorts manager's effort toward short-term outcomes. See, for instance, Bolton et al. (2006) for a recent analytical model based on stock price efficiency.[141] In sum, we cannot claim that public disclosure always improves stock price efficiency and thereby firm investment efficiency. In this paper, we attempt to identify the conditions where the quality of accounting information improves managerial investment decision making.

Our model extends the single-signal framework in Kyle (1985) by introducing a second public signal that the firm must disclose. In this capital market setting, we examine firm investment efficiency as a key determinant of economic productivity. The work most related to the present analysis is Fishman and Hagerty (1989), as they also model managerial decision making on investments using an extension of the model in Kyle (1985). However, unlike Fishman and Hagerty (1989), we explicitly model public information along with private information, and examine a setting in which both a market maker and informed traders know this information. We also

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[140] Several recent empirical studies concern the relation between investment efficiency and earnings management. See, for instance, McNichols and Stubben (2008), Kedia and Philippon (2009) and Durnev and Mangen (2009). However, we do not consider earnings management here.

[141] There may be another reason why high-quality public disclosure may not improve the economic performance of firms. Public information sometimes communicates a firm's proprietary information to competitors. In fact, some studies suggest an association between competition and voluntary disclosure. See, for example, Guo et al. (2004) and Jin (2005). In considering this effect, we could argue that managers change the level of investment when the precision of public information changes, and this could decrease firm profits.

assume manager is risk averse, unlike Fishman and Hagerty (1989) who assume that she is risk neutral. Our findings suggest that higher quality accounting information generally improves investment efficiency by reducing information asymmetries. This is consistent with the empirical evidence in Biddle and Hilary (2006) and Biddle et al. (2008).

The remainder of the paper is organized as follows. Section 2 constructs the basic model. In Section 3, we explicitly characterize the stock price based on publicly available information and the equilibrium level of investment. Section 4 concludes.

2. Model

We assume that a manager and three kinds of traders in a capital market populate the economy. There are three periods. In the first period, the manager makes decisions on how much money to invest in a project. In the second period, public and private information about the liquidated value of the project is released and trading takes place. Finally, in the third period, the project is realized and the firm is liquidated. We assume that there is no time discount across the three periods; that is, the interest rate is zero.

The investment has a normally distributed random return of $\tilde{v} \sim N(\bar{v}, \sigma^2)$. The manager knows these distribution parameters and chooses to invest α dollars in the project. That is, the value of the firm is $\tilde{V} = \alpha\tilde{v}$ and is normally distributed with mean $\alpha\bar{v}$ and variance $\alpha^2\sigma^2$. The manager is assumed to be risk averse with utility $U(Welfare) = -Exp(-r * Welfare)$. We also assume that the manager already has a contract that is a function of the stock price P. Alternatively, the manager sells her shares in the market at P and engages in consumption. The manager then makes an investment decision to maximize her expected utility; that is, $\max_\alpha E[U(P)]$.

In the next period, the firm's stock price is determined in the market. The market model we use is an extension of Kyle (1985). Here, the stock market comprises a single risk-neutral informed trader, uninformed traders and a competitive risk-neutral market maker. The manager releases public information concerning the future returns of the investment and trading takes place.

The informed trader observes the public earnings information and privately observes another signal, and then submits orders x for the firm's stock given this information. Uninformed traders can observe none of this kind of information and can submit random orders of $\tilde{u} = u$ where $\tilde{u} \sim N(0, \sigma_u^2)$. That is, the informed trader's trading is exogenous. The market maker observes the public information and additionally observes total orders of $Y = x + u$. The market maker sets price P such that he expects to earn a zero profit given the total orders and public earnings information. The presence of uninformed traders makes it impossible for the market maker to infer exactly the informed trader's private information.

Private information $\tilde{s}$, which only the informed trader will receive, is normally distributed with zero mean and unit variance; that is, $\tilde{s} \sim N(0,1)$. The public earnings information $\tilde{e}$, which can be observed by both the informed trader and the market maker, is also normally distributed with zero mean and unit variance; that is, $\tilde{e} \sim N(0,1)$. The random investment return $\tilde{v}$ and signals $\tilde{s}$ and $\tilde{e}$ are correlated, and are denoted by ρ_{vs}, ρ_{ve} and ρ_{se}, respectively. Without loss of generality, we assume that $0 \leq \rho_{vs}, \rho_{ve}, \rho_{se} < 1$. That is, signals $\tilde{s}$ and $\tilde{e}$ are positively correlated with investment return (otherwise, the opposing signal can be used instead of the original signal); therefore, these signals are also positively correlated with each other.

In equilibrium, the manager chooses the investment level α by anticipating the effects of her decision on the firm's stock price P. The price is determined in the market such that the informed trader's anticipation of the price and the actual price are equal. The following provides a definition of the equilibrium of this model.

Definition

We define equilibrium in this model as a pair (α, x, P) such that the following three conditions hold:

1. The manager invests to maximize her expected utility,

$$\alpha = \operatorname*{argmax}_{\alpha} E[U(P)]$$

.

2. The informed trader makes orders x subject to for any alternative trading strategy x' and for any v,

$$E[(\alpha\tilde{v} - P)x|s,e] \geq E[(\alpha\tilde{v} - P)x'|s,e]$$

.

3. The price is determined such that the market maker receives zero expected profits,

$$P(Y,e) = E[\tilde{V} = \alpha\tilde{v}|Y, e]$$

.

3. Equilibrium analysis

3.1 Equilibrium in the model

We focus on the optimal investment decision by the manager. The manager makes her investment decision by anticipating the effects of her investment decision on the stock price of the firm. The market maker, observing both the total order flow $Y = u + x$ and the public earnings information e provided by the manager, then sets the stock price. Using backward induction, we first find the equilibrium stock price P and the optimal order amount x, conditional on the manager's investment. In

deriving the equilibrium in this model, we focus on the linear equilibrium. It is well known that this equilibrium concept is the same as Kyle (1985). We then solve for the optimal investment decision by the manager.

The following lemma provides the characterization of the equilibrium stock price and the demand of informed traders.

Lemma 1. The unique equilibrium is given by:

$x = \beta_1 s + \beta_2 e$, and

$P = \alpha \bar{v} + \lambda_1 Y + \lambda_2 e = \alpha \bar{v} + \lambda_1 (u + x) + \lambda_2 e$,

where

$$\beta_1 = \frac{\sigma_u}{\sqrt{1 - \rho_{se}^2}} \ ,$$

$$\beta_2 = -\frac{\sigma_u \rho_{se}}{\sqrt{1 - \rho_{se}^2}} \ ,$$

$$\lambda_1 = \frac{\alpha \sigma \left(\rho_{Vs} - \rho_{Ve} \rho_{se} \right)}{2 \sigma_u \sqrt{1 - \rho_{se}^2}} \quad \text{and}$$

$$\lambda_2 = \alpha \sigma \rho_{Ve} \ .$$

Proof. See Appendix A.

We see that the informed trader places different weights on the private and public earnings information in making a decision on his demand. Further, we also see that these two weights are in the opposite direction. The relative weight is $\dfrac{\beta_1}{\beta_2} = -\rho_{se}$. Therefore, the informed trader is attaching relatively greater importance to his private signal than the public earnings signal as the correlation between the two signals becomes higher.

Note that $\lambda_1 > 0$ because the second-order profit maximization condition for the informed trader requires $-2\lambda_1 < 0$. In this model, λ_1 is an increasing function of the amount invested by the manager α and the volatility of the investment return (or firm profitability) σ^2, and a decreasing function of the variance of the uninformed traders' order flows σ_u^2. It could be viewed λ_2 as a value-relevant measure of the public earnings information. We see in this model that λ_2 is increasing in the manager's level of investment α, the volatility of the investment return σ and the correlation between the value of the firm and the public earnings information ρ_{Ve}.

3.2. Manager's investment

Next, let us consider the manager's investment policy for maximizing her expected utility with a negative exponent. To do this, we need to solve the following problem,

$$\max_{\alpha} E[U(P)]$$

subject to $P = \alpha\bar{v} + \lambda_1 Y + \lambda_2 e$.

The constraint is necessary to reflect the situation in which the manager takes into consideration how her investment will affect the stock price when the manager makes an investment decision.

3.2.1 Perfect information case (first-best scenario)

To start with, we consider the perfect information case in which the market maker sets the stock price equating to the realized value of the firm; that is, where $P = \alpha v$. We can regard this as the benchmark for evaluating the manager's choice of investment in the model.

Lemma 2. In the perfect information case in which means that $P = \alpha v$, the manager's

optimal investment is given by $\alpha_{FB} = \dfrac{\bar{v}}{r\sigma^2}$.

Proof. See Appendix A.

This obviously suggests that the manager's investment increases with the mean of the investment return and decreases with both the variance of the investment return and the magnitude of the manager's risk aversion.

3.2.2 Imperfect information case (second-best scenario)

Now, we consider the imperfect information case in which the stock price is set by the market maker who only observes the public earnings information $\tilde{e}$ and the total order $\tilde{Y} = \tilde{u} + \tilde{x}$ as a two-signal version of the model in Kyle (1985). In other words, the stock price is informationally imperfect in the sense that the market maker sets the stock price without knowing the informed trader's private information $\tilde{s}$ and the value of the firm $\alpha\tilde{v}$, as well as without separating the informed trader's order flow $\tilde{x}$ from the uninformed trader's order flow $\tilde{u}$.

More specifically, the manager faces the following problem when she makes her choice of the investment level:

$$\max_{\alpha}\left\{E(P) - \frac{r}{2}Var(P)\right\}$$

subject to $P = \alpha\bar{v} + \lambda_1 Y + \lambda_2 e$.

The following proposition provides some characterizations of the optimal investment policy undertaken by the manager.

Proposition 1

(a) In the imperfect information case, the manager's investment policy is given by:

$$\alpha_{SB} = \frac{\bar{v}}{r\sigma^2 \left[\dfrac{(\rho_{Vs} - \rho_{Ve}\rho_{se})^2}{2(1-\rho_{se}^2)} + \rho_{Ve}^2 \right]}.$$ (1)

(b) The manager overinvests in the sense that $\alpha_{SB} > \alpha_{FB}$ if

$(\rho_{Vs} - \rho_{Ve}\rho_{se})^2 < 2(1-\rho_{Ve}^2)(1-\rho_{se}^2)$ and underinvests in the sense that $\alpha_{SB} < \alpha_{FB}$ if

$(\rho_{Vs} - \rho_{Ve}\rho_{se})^2 > 2(1-\rho_{Ve}^2)(1-\rho_{se}^2)$. If $(\rho_{Vs} - \rho_{Ve}\rho_{se})^2 = 2(1-\rho_{Ve}^2)(1-\rho_{se}^2)$, the manager invests

optimally in the sense that α_{SB} is equal to α_{FB}.

Proof. See Appendix A.

   The main issue of interest in this paper is the relationship between information

quality and corporate investment efficiency. In other words, would information quality,

particularly the quality of public earnings information, improve corporate investment

efficiency? To investigate this problem, let us first observe how the optimal

investment level in the imperfect information case α_{SB} depends on the correlation

among the value of the firm $\alpha\tilde{v}$, the public earnings signal $\tilde{e}$ and the private signal $\tilde{s}$.

The following proposition provides some comparative static results of the managers'

investment policy in equilibrium. Here, it is natural that the quality of the information is

described by the correlation coefficient between the value of the firm and each signal.

Proposition 2

(a) If the private signal $\tilde{s}$ and public earnings signal $\tilde{e}$ are independent ($\rho_{se}=0$,

   hereafter "the independent case"), the optimal investment level α_{SB} decreases as

   the quality of the private signal ρ_{Vs} and/or the public earnings signal ρ_{Ve} become

   better (higher). Further, the effect of ρ_{Ve} on the reduction in investment is larger

   relative to ρ_{Vs} (the magnitude of the effect of ρ_{Ve} is double).

(b) The optimal investment level decreases as the quality of the private signal becomes higher.

(c) The optimal investment level decreases when the quality of public earnings information is high ($\rho_{Ve} \geq \frac{1}{2}$).

(d) The optimal investment level increases with a higher correlation coefficient between the private signal and the public earnings signal if $(\rho_{Ve} - \rho_{Vs}\rho_{se}) > 0$ and decreases with a higher correlation coefficient between the private signal and the public earnings signal if $(\rho_{Ve} - \rho_{Vs}\rho_{se}) < 0$. If $(\rho_{Ve} - \rho_{Vs}\rho_{se}) = 0$, the optimal investment level is unchanged.

Proof. See Appendix A.

3.2.3 The quality of the signals and investment efficiency

It is now possible to consider how the information quality affects corporate investment efficiency. In dealing with this problem, we note the quality of the public earnings information ρ_{Ve}, as ρ_{Ve} captures an aspect of the characterization of the accounting information.

We define the following threshold function $Z(\rho_{Ve})$ based on Proposition 1(b) to specifically identify the overinvestment and the underinvestment region respectively in terms of ρ_{Ve} :

$$Z(\rho_{Ve}) \equiv 2(1 - \rho_{se}^2)(1 - \rho_{Ve}^2) - (\rho_{Vs} - \rho_{se}\rho_{Ve})^2 . \tag{2}$$

Clearly, $Z(\rho_{Ve}) > (<)0$ represents the manager's overinvestment (underinvestment) in the imperfect information case relative to the first-best investment level in the perfect information case, and $Z(\rho_{Ve}) = 0$ means that the manager's investment level α_{SB} is equivalent to the first-best case α_{FB}. If we assume the public earnings signal

$\tilde{e}$ fully reflects the value of the firm in the sense that $\rho_{Ve} = 1$, we provide the following proposition.

Proposition 3.

The quality of public earnings information would enhance the manager's investment efficiency in the sense that the manager undertakes the first-best investment if the public earnings signal was informationally perfect ($\rho_{Ve} = 1$).

Proof. $\rho_{Vs} = \rho_{se}$ in the case of $\rho_{Ve} = 1$. Inserting into eq. (2), $Z(\rho_{Ve}) = 0$.

4. Concluding Remarks

This paper investigates how the quality of accounting information improves a firm's investment efficiency using a stock market model that incorporates the manager's investment decisions. In particular, we focus on the role of public disclosure in forming more efficient security prices and thereby improving firm investment. Recent empirical research suggests that higher quality financial reporting Our results indicate that higher quality accounting information generally improves investment efficiency by reducing information asymmetries, and this is consistent with the empirical findings in Biddle and Hilary (2006) and Biddle et al. (2008).

Appendix A

Proof of Lemma 1

Given any vector of normal random variables X_1 and any vector of normal random variables X_2,

$$\begin{pmatrix} X_1 \\ X_2 \end{pmatrix} \sim N(\mu, \Sigma), \text{ where } \mu = \begin{pmatrix} \mu_1 \\ \mu_2 \end{pmatrix} \text{ and } \Sigma = \begin{pmatrix} \Sigma_{11} & \Sigma_{12} \\ \Sigma_{21} & \Sigma_{22} \end{pmatrix},$$

then,

$$E[X_1|X_2] = \mu_1 + \Sigma_{12}\Sigma_{22}^{-1}(X_2 - \mu_2), \text{ and}$$

$$V[X_1|X_2] = \Sigma_{11} - \Sigma_{12}\Sigma_{22}^{-1}\Sigma_{21}.$$

Proof of Lemma 2

The manager faces the following problem in maximizing her utility in the perfect information case,

$$\max_{\alpha}\left\{E(P) - \frac{r}{2}Var(P)\right\}$$

subject to $P = E[\alpha\tilde{v}]$.

Taking the first-order condition with respect to α and equating it to 0, we have

$$\bar{v} - r\sigma^2\alpha = 0 \text{ and, therefore, } \alpha_{FB} = \frac{\bar{v}}{r\sigma^2}.$$

Proof of Proposition 1(a)

From Lemma 1, $E(P) = \alpha\bar{v}$ and $Var(P) = \alpha^2\sigma^2\left[\frac{(\rho_{Vs} - \rho_{Ve}\rho_{se})^2}{2(1-\rho_{se}^2)} + \rho_{Ve}^2\right]$. Taking the first-order condition with respect to α and equating it to 0, we then have α_{SB}, as in Proposition 1(a).

Proof of Proposition 1(b)

It is obvious from a comparison of the amounts invested in the imperfect information case α_{SB} and the perfect information case α_{FB}, specifically from comparing $\frac{(\rho_{Vs} - \rho_{Ve}\rho_{se})^2}{2(1-\rho_{se}^2)} + \rho_{Ve}^2$ in the former with 1 in the latter.

Proof of Proposition 2 (a)

In the independent case, $\rho_{se} = 0$, eq. (1) can be written as $\alpha_{SB} = \dfrac{\bar{v}}{r\sigma^2 \left[\dfrac{\rho_{Vs}^2}{2} + \rho_{Ve}^2 \right]}$.

The proof is obvious from this expression.

Proof of Proposition 2 (b)

From eq.(1), $\dfrac{\partial \alpha_{SB}}{\partial \rho_{Vs}} = - \dfrac{1}{r\sigma^2 \left(\dfrac{(\rho_{Vs} - \rho_{Ve}\rho_{se})}{2(1 - \rho_{se}^2)} + \rho_{Ve}^2 \right)^2} \, \bar{v} \, \dfrac{(\rho_{Vs} - \rho_{Ve}\rho_{se})}{(1 - \rho_{se}^2)}$. In addition,

$\lambda_1 > 0$ due to the second-order profit maximization condition for the informed trader.

Therefore, we have $(\rho_{Vs} - \rho_{Ve}\rho_{se}) > 0$, and thus $\dfrac{\partial \alpha_{SB}}{\partial \rho_{Vs}} < 0$.

Proof of Proposition 2 (c)

$\dfrac{\partial \alpha_{SB}}{\partial \rho_{Ve}} = - \dfrac{1}{r\sigma^2 \left(\dfrac{(\rho_{Vs} - \rho_{Ve}\rho_{se})}{2(1 - \rho_{se}^2)} + \rho_{Ve}^2 \right)^2} \, \bar{v} \, \dfrac{2\rho_{Ve} - \rho_{se}(\rho_{Vs} - \rho_{Ve}\rho_{se})}{(1 - \rho_{se}^2)}$. $(\rho_{Vs} - \rho_{Ve}\rho_{se}) > 0$ from the

second-order profit maximization condition for the informed trader. Also, $1 > \rho_{se} \geq 0$,

$1 > \rho_{Ve} \geq 0$ and $1 > \rho_{Vs} \geq 0$ by the definition and assumptions. Therefore,

$1 > (\rho_{Vs} - \rho_{Ve}\rho_{se}) > 0$, then $1 > \rho_{se}(\rho_{Vs} - \rho_{Ve}\rho_{se}) \geq 0$. If $\rho_{Ve} \geq \dfrac{1}{2}$, it is at least true that

$2\rho_{Ve} - \rho_{se}(\rho_{Vs} - \rho_{Ve}\rho_{se}) \geq 0$.

Proof of Proposition 2 (d)

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Proposition 2 (d) follows immediately from differentiation of eq. (1),

$$\frac{\partial \alpha_{SB}}{\partial \rho_{se}} = \frac{1}{r\sigma^2 \left(\frac{(\rho_{Vs} - \rho_{Ve}\rho_{se})}{2(1-\rho_{se}^2)} + \rho_{Ve}^2\right)^2} 2\bar{v} \frac{(\rho_{Ve} - \rho_{Vs}\rho_{se})(\rho_{Vs} - \rho_{Ve}\rho_{se})}{(1-\rho_{se}^2)}$$

, and $(\rho_{Vs} - \rho_{Ve}\rho_{se}) > 0$.

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PERFORMANCE EVALUATION OF TURKISH PENSION MUTUAL FUNDS USING MORNINGSTAR-STAR RATING SYSTEM

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ABSTRACT

The Morningstar-star rating system has been used commonly in both academic and practitioner circles as having the most effective rating tool in the mutual fund industry. A system created by Morningstar company which rates mutual funds based on their risk-adjusted performance over various periods from one star (the worst) to five star (the best).

In this study we use Morningstar-star rating system to analyse weighted performance of Turkish pension mutual funds during the period January 2004-December 2008. In this context pension mutual funds are grouped into five and weighted performance results are rated.

***Key Words**: Pension mutual funds, performance, Morningstar-star rating system.*

INTRODUCTION

Funded pension schemes are becoming a key point for modern economies and economic policy. Increasing demographic pressure combine with the need of reforming the existing ineffective and politically vulnerable systems bring about the current trends to privatese the modern welfare state and to use capital market-based solutions in the old age provision.[142]

A number of countries have implemented or proposed fundemental reforms of their pension systems including Latin American countries such as Chile (1981), Peru (1993), Argentina (1994), Colombia (1994), Uruguay (1995), Bolivia (1997), Mexico (1998), El Salvador (1998) and European countries such as United Kingdom (1988), Czech Republic (1998), Hungary (1998) and Poland (1999). These reforms emphasise the role of individual, privately managed defined-contributions accounts, where the value of the pension benefit will depend on accumulated contributions and investment returns.[143]

Turkey also started pension reform process in 1999. Turkey's 1999 reform implemented a two-pillar system, maintaining public social security institutions with some changes (the first pillar) and introducing private pension schemes (the second pillar).[144] So the Individual Retirement Law in Turkey has been legislated in parliament and published in the Official Gazette on May, 7th 2001. The law was enacted after 6 months following the publishing date and Turkish Individual Pension System commenced on October 27, 2003. According the law no. 4632 on Individual Pension Savings and Investment System, which is complementary to the state social security system and only the licensed pension companies are entitled to sell personel private pension products and collect personel pension contributions is called pension mutual funds, which are mutual funds founded by the pension companies exclusively for the investment of pension monies.

In this study Morningstar-star rating system is used for performance rating of Turkish pension mutual funds which was introduced in 2003. Pension mutual funds from which to choose and investors need a shortcut to aid in their decision making. In the absence of a better alternative, households often focus on absolute returns because this measure is a concept that they readily grasp. This focus, however, leads them to ignore such other important factors as risk and expenses. The Morningstar ratings have the potential to improve household investment decisions by providing a signal of fund quality that is as easy to understand as absolute returns but better grounded in investment theory. That is, the star

ratings make the results of sophisticated analysis accessible to the public. For professional investors, although they realize they need to look at relative risk-adjusted returns (adjusted for expenses), personally performing this calculation on each and every portfolio is costly. Morningstar thus provides a valuable service for them. Professional investors can use the star ratings as Morningstar intended- as a starting point in building a portfolio that matches specific goals and tolerances for risk.[145]

So we organize the rest of the paper as follows, Section 1 defines the Morningstar-star rating system, Section 2 describes Morningstar-star rating system calculation procedures, Section 3 explains study framewok, and Section 4 concludes Morningstar weighted performance and rating results of Turkish pension mutual funds.

1. MORNINGSTAR STAR-RATING SYSTEM

With the tremendous growth of privately managed retirement accounts and the more than 10,000 now available to investors in US.[146] Numerous magazines and newspapers, like Fortune, Kplingers, Money, USA Today and the Wall Street Journal, all now provide comprehensive fund ratings/rankings in order to help investors their way through the numerous funds that are advertised each day in leading publications.

Despite the entry of these popular publications into the mutual fund rating business, the most well known mutual fund rating system is currently provided by Morningstar Inc. Started in the mid-1980s, the company has grown largely as a result of the sucess of its now famous 5-star rating system. Similar to the ratings given to hotels, movies, or restaurants, Morningstar rates mutual funds on a scale of 1 to 5 stars, where 1 star is the worst rating and 5 star is the best. Because of the ratings system's similarity to the way we rate so many other products, and its high regard within the industry, the star rating system has become part of the accepted lexicon in mutual funds.[147]

The Morningstar-star rating system has become so popular that a fund receiving a high star rating is often deemed by the public to have something like ''a Good Housekeeping seal of approval''. In fact some financial planners reported that investors require them invest only in funds with four-or-five star ratings. One study found that as much as 90 percent of new money invested in stock funds in 1995 went to funds with four-star or five-star ratings.[148] And a recent study by Financial Research Corporation of Boston, which was reported in the Wall Street Journal found that in 1999, funds with four or five stars received inflows of $223.6 billion whereas funds with three or fewer stars had outflows of $132 billion.[149] Moreover, the heavy use of Morningstar ratings in mutual fund advertising (in some cases, the only mention of return performance in the mutual fund advertisement is the Morningstar rating) suggests that mutual fund firms believe that investors care about Morningstar ratings.[150] For example, in 2001-2004, companies such as American Century, Dreyfus, Fidelity, Franklin Resources, Northern Funds, and Strong Funds all run advertisements that emphasized star ratings rather than their own return histories.[151]

2. MORNINGSTAR STAR-RATING SYSTEM CALCULATION PROCEDURES

To calculate its ratings, Morningstar first classifies funds into one of four categories: domestic equity, foreign equity, municipal bond, and taxable bond.[152] The ratings are then

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[145] ADKISSON J. A., DON R. Fraser, Reading the Stars: Age Bias in Morningstar Ratings, Financial Analysts Journal, Vol. 59, No. 5, Sep.-Oct. 2003, p.24

[146] MOREY Matthew R., Mutual Fund Age and Morningstar Ratings, Financial Analysts Journal, Vol.58, No.2, Mar.-Apr. 2002, p.56

[147] TIAA-CREF Institute, The Morningstar Mutual Fund Star Ratings: What Investors Should Know, Research Dialogue, Issue No.64, July 2000, p.2

[148] DAMATO Karen, ''The Morningstar Edges Toward One-Year Ratings'', The Wall Street Journal, April 5, 1996, p.C1

[149] FRANECKI David, ''Fund Ratings and Recent Results Diverge'', The Wall Street Journal, May 3, 2000, p.C27

[150] MOREY Matthew R., a.g.e., p.56

[151] MOREY Matthew R., GOTTESMAN Aron, Morningstar Mutual Fund Ratings Redux, The Journal of Invesment Consulting, Vol.8, No.1, Summer 2006, p.25

[152] Morningstar-star rating grouped mutual funds into four categories: domestic equity, foreign equity, municipal

based upon an agregation of the three-, five-, and 10-year risk-adjusted return for funds with 10 year risk-adjusted return for funds with 10 years or more of return history, three- and five-year risk-adjusted returns for funds with five to less than 10 years of return data, and three-year risk-adjusted returns for funds with five to less than five years of return data. To calculate the risk-adjusted return for the fund by adjusting returns for expenses and other costs automatically taken out of the fund, and then by adjusting for front-end and deferred loads. Next, Morningstar calculates a "Morningstar return" in which the expense-and load-adjusted excess is return divided by the higher of two variables: the excess average return of the fund category or the average 90-day T-bill rate; [153]

$$\frac{(\text{Expense- and Load-Adjusted Return on the Fund} - \text{T-Bill})}{\max[(\text{Average Category Return} - \text{T-Bill}), \text{T-Bill}]}$$

Morningstar then calculates a "Morningstar risk" measure, which is calculated differently from traditional risk measures, such as beta and standard deviation that both see greater-than and less-than-expected returns as added volatility. Morningstar believes that most investors' greatest fear is losing money, which Morningstar defines as underperforming the risk-free rate of return an investor can earn from the 90-day Treasury bill. Hence, their risk measure only focuses on downside risk.[154] To calculate risk, Morningstar plots monthly returns in relation to T-bill returns, adds up the amounts by which the fund trails the T-bill return each month, and then divides that total by the time horizon's total number of months. This number, the average monthly underperformance statistic, is then compared with those of other funds in the same broad investment category to assign the risk scores. The resultant Morningstar risk score expresses how risky the fund is relative to the average fund in its category.

To calculate a fund's summary star rating, Morningstar calculates the three-, five-, and 10-year Morningstar return and risk. For each time horizon, the Morningstar calculates its raw rating by subtracting the Morningstar risk score from the Morningstar return score. Then the three numbers (one for each time horizon) are then given subjective weights. The three-year number receives a 20% weighting, the five-year a 30% weighting, and the 10-year a 50% weighting. In the case of young funds (funds with three to less than five years of return data), the three-year number receives a 100% weighting; in the case of middle-aged funds (funds with five to less than 10 years of return data), the three-year number receives a 40% weighting and the five-year number receives a 60% weighting. With these weights, Morningstar calculates the weighted average of the numbers. (See Figure 1) The resulting number is then plotted along a bell curve to determine the fund's star rating. If the fund scores in the top 10% of its broad investment category, it receives a rating of five stars; if the fund falls in the next 22.5%, it receives four stars; if it falls in the middle 35%, it receives three stars; if it lies in the next 22.5%, the fund receives two stars, and if it is in the bottom 10%, it receives one star.[155]

Figure 1: Distribution of Star Ratings Within a Category in the Morningstar Rating System

Source: BENZ Christina, TERESA Peter, KINNEL Russel, Morningstar Guide to Mutual Funds, John Wiley and Sons, New Jersey, Jan 2003, p.32

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bond and taxable bond. But Turkish pension mutual funds differ from any aspects (asset classes, investment strategies, size etc.) from US mutual funds. Therefore in the study pension mutual funds category numbers are enlarged.

[153] BLAKE R. Christopher, MOREY Matthew R., Morningstar Ratings and Mutual Fund Performance, Journal of Financial and Quantative Analysis, Vol.35, No.3, September 2000, p.457

[154] Focusing only on downside risk is neither unique to Morningstar nor new; it was explored by Markowitz (1959) and incorporated into an asset-pricing model by Bawa and Lindenberg (1977).

[155] BLAKE R. Christopher, MOREY Matthew R., a.g.e., p.458

3. STUDY FRAMEWORK

According to the PMC (Pension Monitoring Center) and CMB (Capital Market Board) Turkish pension mutual funds are grouped into five categories. Therefore in the study the pension mutual funds are **grouped into five categories** according to the asset types as follows;

1) Flexible-Balanced Funds: Pension mutual funds, asset allocation of which are not pre specified, are determined by a portfolio manager in accordance with the market conditions and main limits laid down at the relevant regulation. This funds portfolio mainly consists of Gov't Bonds and Bills and can be supported by trading shares listed at ISE (Istanbul Stock Exchange), especially during the uptrend market periods.

2) Stock Funds: Pension mutual funds include minimum 80% of stocks in their portfolios, the return trend of funds are highly corellated with ISE .

3) Gov't Bonds and Bills Funds: Pension mutual funds include minimum 80% of Gov't Bonds and Bills in their portfolios.

4) International-Currency Indexed Funds: Pension mutual funds which carry minimum 80% of foreign instruments, with the returns of Euro and USD.

5) Liquid Funds: Pension mutual funds portfolio consists of capital market instruments of high liquidity with a maximum maturity of 180 days, and the upper limit of weighted average maturity of the portfolio is 45 days.

So in the study the number of 60 funds which are 13 Flexible-Balanced Funds, 8 Stock Funds, 11 Gov't Bonds and Bills Funds, 15 International-Currency Indexed Funds and 13 Liquid Funds are rated using Morningstar-star rating system during January 2004-December 2008 time period.[156]

In order to understand the main aspects of the study we explain return and risk variables calculation as follows;

a) Return Data: Firstly pension mutual funds monthly return (%) used in the study. The return of the pension fund calculated as below;[157]

$$r_p = \frac{V_t - V_{t-1}}{V_{t-1}}$$

r_p : Pension mutual funds return

V_t : Pension fund unit price at t month

V_{t-1} : Pension fund unit price at preceding month

Secondly we use 91 day Trasury bill rate[158] to calculate Morningstar return. As we know to calculate the risk-adjusted return for the fund by adjusting returns for expenses and other costs automatically taken out of the fund, and then by adjusting for front-end and deferred loads. Next, Morningstar calculates a ''Morningstar return'' in which the expense-and load-adjusted excess is return divided by the higher of two variables.[159]

b) Risk Data: Standard deviation is sometimes criticized as being an inadequate measure of risk because investors do not dislike variability per se. Rather, they dislike losses but are quite happy to receive unexpected gains. One way to meet this objection is to calculate a measure of downside variability, which takes account of losses but not of gains. For example, we could calculate a measure of average monthly underperformance as follows:[160] 1) Count the number of months when the fund lost money or underperformed Treasury bills, that is, when excess returns were negative. 2) Sum these negative excess returns. 3) Divide the sum by the total number of months in the measurement period.

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[156] In the analyze period some pension firms are merged or bought by the local and international insurance firms. Therefore changed pension firms/funds name updated according to CMB (Capital Market Board) of Turkey.

[157] CPM (Capital Market Board), http://www.spk.gov.tr/apps/aylıkbulten/index.aspx

[158] 91 day T-bill rate of return (%) obtained from ISE (Istanbul Stock Exchange) Bonds and Bills Market Data, http://www.imkb.gov.tr/veri.htm

[159] In the study the average T-bill rate is bigger variable than the excess average return of the category. So we prefer to use the average 91-day T-bill rate.

[160] SIMONS Katerina, ''Risk-Adjusted Performance of Mutual Funds'', New England Economic Review, September/October 1998, p.36

Morningstar use downside risk in Morningstar risk calculation and this final risk score expresses how risky the fund is relative to the average fund in its category. While downside risk may be a better reflection of investors' attitudes towards risk, empirical evidence suggests that the distinction between downside risk and the standard deviation is not as important as it seems because the two measures are highly correlated. Sharpe[161] (1997) analyzed monthly standard deviations of excess returns and average monthly underperformance in a sample of 1,286 diversified equity funds in the three-year period between 1994 and 1996. He found a close relationship between these two measures, with a correlation coefficient of 0.932. Such a close correlation is not surprising, since monthly stock returns generally follow a symmetrical bell-shaped distribution. Therefore, stocks with larger downside deviations will also have larger standard deviations.

4. PENSION MUTUAL FUNDS WEIGHTED PERFORMANCE AND STAR-RATING RESULTS

The investment process of pension mutual funds is strategically important as well as the fund performance for beneficiaries, retirement corporations and regulatory authorities. The analyses of these data are an important clue for the potential number of beneficiaries and the effectiveness of pension mutual fund investments.[162] Especially performance evaluation is very important for mutual funds and pension mutual funds which are institutional investors, a lot of numerical indices are widely used in the literature (such as Sharpe, Treynor, Jensen and recently Morningstar-star rating). (See Table 1) In this study we use Morningstar-star rating system to conclude performance and rating results of 60 pension mutual funds in Turkey. So we calculate Morniningstar risk adjusted performance and rating results as follows;

Table 1: Study Periods and Other Details

Age of Fund	Morningstar Risk-Adjusted Performance and Star Rating Period Based On	Number of Funds Analysed
1) At least 3 years, but less than 5	100% 3-year raw return.	60
2) At least 5 years, but less than 10	40% 3-year raw return, 60% 5-year raw return.	60
3) At least 10 years	20% 3-year raw return, 30% 5-year raw return, 50% 10-year raw return.	*Non available data and funds

*Turkish pension mutual fund industry commenced on **October 27, 2003**. So there isn't enough data for 10 year.

4.1 Pension Mutual Funds Weighted Performance and Rating Results of Three Year (Weighted 100% Three-Year Raw Return)

We present performance and rating results of Turkish pension mutual funds. So the funds grouped into five categories and ratings weighted 100% three-year raw return.

 (See Table 2) The pension mutual funds which are grouped into Flexible-Balanced Funds, the best performing five star fund is Anadolu Hayat Emeklilik A.Ş. Flexible Income PMF whereas the worst performing one star fund is Koç Allianz Hayat ve Emeklilik A.Ş. Flexible Growth PMF.

Table 2: Flexible-Balanced Funds

Rank	Name of Fund	3 Year Raw Return × 100%	Result	Percent Rank %	Number of Stars
1	ANADOLU HAYAT EMEKLİLİK A.Ş. FLEXIBLE INCOME PMF	-0,08	-0,08	0	*****
2	ANADOLU HAYAT EMEKLİLİK A.Ş. FLEXIBLE GROWTH PMF	-0,63	-0,63	8	*****
3	AVİVASA EMEKLİLİK VE HAYAT A.Ş. FLEXIBLE PMF	-0,65	-0,65	17	****

[161] SHARPE William F., http://www.stanford.edu/~wfsharpe/art/stars/stars7.htm
[162] ALTINTAŞ Kadir Murat, The Risk-Based Management Performance Evaluation of Turkish Private Pension Funds: An Analysis For 2004-2006 Period, Anadolu University Journal of Social Sciences, Vol.8, No.1, 2008, p.85

		3 Year Raw Return × 100%	Result	Percent Rank %	Number of Stars
4	ANADOLU HAYAT EMEKLİLİK A.Ş. FLEXIBLE PMF	-0,71	-0,71	33	****
4	AVİVASA EMEKLİLİK VE HAYAT A.Ş. FLEXIBLE GROWTH PMF	-0,71	-0,71	33	****
5	AVİVASA EMEKLİLİK VE HAYAT A.Ş. BALANCED PMF	-0,76	-0,76	42	***
6	VAKIF EMEKLİLİK A.Ş. FLEXIBLE PMF	-0,82	-0,82	50	***
7	YAPI KREDİ EMEKLİLİK A.Ş. FLEXIBLE PMF	-0,86	-0,86	58	***
8	OYAK EMEKLİLİK A.Ş. COMPOSITE GROWTH PMF	-0,94	-0,94	67	**
9	BAŞAK GROUPAMA EMEKLİLİK A.Ş. FLEXIBLE PMF	-1,05	-1,05	75	**
10	FORTIS EMEKLİLİK VE HAYAT A.Ş. FLEXIBLE PMF	-1,28	-1,28	83	**
11	AEGON EMEKLİLİK VE HAYAT A.Ş. BALANCED PMF	-1,50	-1,50	92	*
12	KOÇ ALLIANZ HAYAT VE EMEKLILIK A.Ş.FLEXIBLE GROWTH PMF	-1,55	-1,55	100	*
	AVERAGE	**-0,89**	**-0,89**		

(See Table 3) The pension mutual funds which are grouped into Stock Funds, the best performing five star fund is Vakıf Emeklilik A.Ş. Stock Growth PMF whereas the worst performing one star fund is Koç Allianz Hayat Emeklilik A.Ş. ISE 30 Index Specialized PMF.

Table 3: Stock Funds

Rank	Name of Fund	3 Year Raw Return × 100%	Result	Percent Rank %	Number of Stars
1	VAKIF EMEKLİLİK A.Ş. STOCK GROWTH PMF	-0,38	-0,38	0	*****
2	YAPI KREDİ EMEKLİLİK A.Ş. STOCK GROWTH PMF	-0,42	-0,42	14	****
3	ANADOLU HAYAT EMEKLİLİK A.Ş. STOCK GROWTH PMF	-0,43	-0,43	29	****
4	AEGON EMEKLİLİK VE HAYAT A.Ş. STOCK INCOME PMF	-0,48	-0,48	43	***
5	GARANTİ EMEKLİLİK VE HAYAT A.Ş. STOCK GROWTH PMF	-0,53	-0,53	57	***
6	BAŞAK GROUPAMA EMEKLİLİK A.Ş. STOCK GROWTH PMF	-0,55	-0,55	72	**
7	OYAK EMEKLİLİK A.Ş. STOCK GROWTH PMF	-0,61	-0,61	86	**
8	KOÇ ALLIANZ HAYAT EMEKLİLİK A.Ş. ISE 30 INDEX SPECIALIZED PMF	-0,73	-0,73	100	*
	AVERAGE	**-0,52**	**-0,52**		

(See Table 4) The pension mutual funds which are grouped into Gov't Bonds and Bills Funds, the best performing five star fund is Avivasa Emeklilik ve Hayat A.Ş. Gov't Bonds and Bills Income PMF* whereas the worst performing one star fund is Fortis Emeklilik ve Hayat A.Ş. Gov't Bonds and Bills Income PMF.

Table 4: Gov't Bonds and Bills Funds

Rank	Name of Fund	3 Year Raw Return × 100%	Result	Percent Rank %	Number of Stars
1	AVİVASA EMEKLİLİK VE HAYAT A.Ş. GOV'T BONDS AND BILLS INCOME PMF*	-0,63	-0,63	0	*****
2	YAPI KREDİ EMEKLİLİK A.Ş. GOV'T BONDS AND BILLS INCOME PMF	-0,70	-0,70	10	*****
3	BAŞAK GROUPAMA EMEKLİLİK A.Ş. GOV'T BONDS AND BILLS INCOME PMF	-0,71	-0,71	20	****
4	GARANTİ EMEKLİLİK VE HAYAT A.Ş. GOV'T BONDS AND BILLS INCOME PMF	-0,76	-0,76	30	****
5	ANADOLU HAYAT EMEKLİLİK A.Ş. GOV'T BONDS AND BILLS INCOME PMF	-0,81	-0,81	40	***
6	OYAK EMEKLİLİK A.Ş. GOV'T BONDS AND BILLS INCOME PMF	-0,91	-0,91	50	***
7	AVİVASA EMEKLİLİK VE HAYAT A.Ş. GOV'T BONDS AND BILLS INCOME PMF **	-0,99	-0,99	60	***
8	KOÇ ALLIANZ HAYAT EMEKLİLİK A.Ş. GOV'T BONDS AND BILLS INCOME PMF	-1,05	-1,05	70	**
9	AEGON EMEK. VE HAYAT A.Ş. GOV'T BONDS AND BILLS INCOME PMF	-1,23	-1,23	80	**
10	VAKIF EMEKLİLİK A.Ş. GOV'T BONDS AND	-1,30	-1,30	90	*

Rank	Name of Fund			
	BILLS INCOME PMF				
11	FORTIS EMEKLİLİK VE HAY. A.Ş. GOV'T BONDS AND BILLS INCOME PMF	-1,33	-1,33	100	*
	AVERAGE	**-0,95**	**-0,95**		

*AE2, **AVK fund codes.

(See Table 5) The pension mutual funds which are grouped into International-Currency Indexed Funds, the best performing five star fund is Koç Allianz Hayat Emeklilik A.Ş. Gov't Eurobond Income PMF whereas the worst performing one star fund is Avivasa Emeklilik ve Hayat A.Ş. International Composite Income PMF.

Table 5: International-Currency Indexed Funds

Rank	Name of Fund	3 Year Raw Return × 100%	Result	Percent Rank %	Number of Stars
1	KOÇ ALLIANZ HAYAT EMEK. A.Ş. GOV'T EUROBOND INCOME PMF	-1,18	-1,18	0	*****
2	FORTIS EMEK. VE HAYAT A.Ş. FX INVESTMENT INSTRUMENTS INCOME PMF	-1,40	-1,40	7	*****
3	AVİVASA EMEK. VE HAYAT A.Ş. GOV'T EUROBOND INCOME PMF	-1,42	-1,42	22	****
3	VAKIF EMEK. A.Ş. GOV'T EUROBOND INCOME PMF	-1,42	-1,42	22	****
4	ANADOLU HAY. EMEK. A.Ş. COMPOSITE BONDS AND BILLS INCOME (USD) PMF	-1,46	-1,46	29	****
5	ANADOLU HAY. EMEK. A.Ş. INTERNATIONAL COMPOSITE GROWTH PMF	-1,47	-1,47	36	***
6	YAPI KREDİ EMEK. A.Ş. INTERNATIONAL COMPOSITE INCOME PMF	-1,53	-1,53	43	***
7	KOÇ ALLIANZ HAY. EMEK. A.Ş. GOV'T BONDS AND BILLS (FX) INCOME PMF	-1,55	-1,55	50	***
8	ANADOLU HAY. EMEK. A.Ş. COMPOSITE BONDS AND BILLS INCOME (EURO) PMF	-1,64	-1,64	57	***
9	AVİVASA EMEK VE HAY. A.Ş. COMPOSITE BONDS AND BILLS INCOME (EURO) PMF	-1,66	-1,66	64	***
10	AVİVASA E. VE HAYAT A.Ş. GOV'T BONDS AND BILLS INCOME (USD) PMF	-1,67	-1,67	72	**
11	BAŞAK EMEK. A.Ş. GOV'T BONDS AND BILLS (FX) INCOME PMF	-1,70	-1,70	79	**
12	FORTIS EMEK.VE HAY. A.Ş. GOV'T BONDS AND BILLS (FX) INCOME PMF	-1,77	-1,77	86	**
13	GARANTİ EMEK. VE HAY. A.Ş. INTERNATIONAL BONDS AND BILLS INCOME PMF	-2,08	-2,08	93	*
14	AVİVASA EMEK.VE HAY. A.Ş. INTERNATIONAL COMPOSITE IMCOME PMF	-2,19	-2,19	100	*
	AVERAGE	**-1,61**	**-1,61**		

(See Table 6) The pension mutual funds which are grouped into liquid funds, the best performing five star fund is Avivasa Emeklilik ve Hayat A.Ş. Gov't Bonds and Bills Liquid PMF whereas the worst performing one star fund is Fortis Emeklilik ve Hayat A.Ş. Composite Gov't Bonds and Bills Liquid PMF (Temp. Acc.).

Table 6: Liquid Funds

Rank	Name of Fund	3 Year Raw Return × 100%	Result	Percent Rank %	Number of Stars
1	AVİVASA EMEKLİLİK VE HAYAT A.Ş. GOV'T BONDS AND BILLS LIQUID PMF*	-0,82	-0,82	0	*****
2	GARANTİ EMEKLİLİK VE HAYAT A.Ş. GOV'T BONDS AND BILLS LIQUID PMF	-0,89	-0,89	8	*****
3	OYAK EMEKLİLİK A.Ş. LIQUID PMF	-0,91	-0,91	17	****
4	FORTIS EMEKLİLİK VE HAYAT A.Ş. GOV'T BONDS AND BILLS LIQUID PMF	-0,93	-0,93	33	****
4	YAPI KREDİ EMEKLİLİK A.Ş. GOV'T BONDS AND BILLS LIQUID PMF	-0,93	-0,93	33	****
5	KOÇ ALLIANZ HAYAT EMEKLİLİK A.Ş. GOV'T BONDS AND BILLS LIQUID PMF	-1,00	-1,00	42	***
6	ANADOLU HAYAT EMEKLİLİK A.Ş. GOV'T BONDS AND BILLS LIQUID PMF	-1,02	-1,02	50	***

7	AEGON EMEKLİLİK VE HAYAT A.Ş. GOV'T BONDS AND BILLS LIQUID PMF	-1,12	-1,12	58	***
8	VAKIF EMEKLİLİK A.Ş. GOV'T BONDS AND BILLS LIQUID PMF	-1,27	-1,27	67	**
9	BAŞAK GROUPAMA EMEKLİLİK A.Ş. GOV'T BONDS AND BILLS LIQUID PMF	-1,29	-1,29	75	**
10	AVİVASA EMEKLİLİK VE HAYAT A.Ş. GOV'T BONDS AND BILLS LIQUID PMF**	-1,43	-1,43	83	**
11	KOÇ ALLIANZ HAYAT EMEKLİLİK A.Ş. GOV'T BONDS AND BILLS LIQUID PMF (TEMP. ACC.)	-1,98	-1,98	92	*
12	FORTIS EMEKLİLİK VE HAYAT A.Ş. COMPOSITE GOV'T BONDS AND BILLS LIQUID PMF (TEMP. ACC.)	-2,05	-2,05	100	*
	AVERAGE	**-1,20**	**-1,20**		

*AE1, **AVL fund codes.

(See Table 7) As a result if we look the summary performance results of the pension mutual funds which are grouped into five, the best performing 5-star funds are Anadolu Hayat Emeklilik A.Ş. Flexible Income PMF, Vakıf Emeklilik A.Ş. Stock Growth PMF, Avivasa Emeklilik ve Hayat A.Ş. Gov't Bonds and Bills Income PMF*, Koç Allianz Hayat Emeklilik A.Ş. Gov't Eurobond Income PMF and Avivasa Emeklilik ve Hayat A.Ş. Gov't Bonds and Bills Liquid PMF*. Whereas the worst performing 1-star funds are Koç Allianz Hayat ve Emeklilik A.Ş. Flexible Growth PMF, Koç Allianz Hayat Emeklilik A.Ş. ISE 30 Index Specialized PMF, Fortis Emeklilik ve Hayat A.Ş. Gov't Bonds and Bills Income PMF, Avivasa Emeklilik ve Hayat A.Ş. International Composite Income PMF, Fortis Emeklilik ve Hayat A.Ş. Composite Gov't Bonds and Bills Liquid PMF (Temp.Acc.).

Table 7: The Best and Worst Funds Which are Grouped into Five Categories (Weighted 100% Three Year Raw Return)

The Best Performing Funds	Categories	Result	Number of Stars
ANADOLU HAYAT EMEKLİLİK A.Ş. FLEXIBLE INCOME PMF	Flexible Balanced Funds	-0,08	*****
VAKIF EMEKLİLİK A.Ş. STOCK GROWTH PMF	Stock Funds	-0,38	*****
AVİVASA EMEKLİLİK VE HAYAT A.Ş. GOV'T BONDS AND BILLS INCOME PMF*	Gov't Bonds and Bills Funds	-0,63	*****
KOÇ ALLIANZ HAYAT EMEK. A.Ş. GOV'T EUROBOND INCOME PMF	International-Currency Indexed Funds	-1,18	*****
AVİVASA EMEKLİLİK VE HAYAT A.Ş. GOV'T BONDS AND BILLS LIQUID PMF*	Liquid Funds	-0,82	*****
The Worst Performing Funds	Categories	Result	Number of Stars
KOÇ ALLIANZ HAYAT VE EMEKLILIK A.Ş. FKEXIBLE GROWTH PMF	Flexible-Balanced Funds	-1,55	*
KOÇ ALLIANZ HAYAT EMEKLİLİK A.Ş. ISE 30 INDEX SPECIALIZED PMF	Stock Funds	-0,73	*
FORTIS EMEKLİLİK VE HAY. A.Ş. GOV'T BONDS AND BILLS INCOME PMF	Gov't Bonds and Bills Funds	-1,33	*
AVİVASA EMEK. VE HAY. A.Ş. INTERNATIONAL COMPOSITE IMCOME PMF	International-Currency Indexed Funds	-2,19	*
FORTIS EMEKLİLİK VE HAYAT A.Ş. COMPOSITE GOV'T BONDS AND BILLS LIQUID PMF (TEMP.ACC.)	Liquid Funds	-2,05	*

4.2 Pension Mutual Funds Weighted Performance and Rating Result of Three and Five Year (Weighted 40% Three Year and 60% Five-Year Raw Return)

We present performance and rating results of Turkish pension mutual funds. So the funds grouped into five categories and ratings weighted 40% three-year and 60% five-year raw return.

(See Table 8) The pension mutual funds which are grouped into Flexible-Balanced Funds, the best performing five star fund is Anadolu Hayat Emeklilik A.Ş. Flexible Income PMF whereas the worst performing one star fund is Fortis Emeklilik ve Hayat A.Ş. Flexible PMF.

Table 8: Flexible-Balanced Funds

Rank	Name of Fund	3 Year Raw Return × 40%	5 Year Raw Return × 60%	Result	Percent Rank %	Number of Stars
1	ANADOLU HAYAT EMEKLİLİK A.Ş. FLEXIBLE INCOME PMF	-0,03	-0,05	-0,08	0	*****
2	VAKIF EMEKLİLİK A.Ş. FLEXIBLE PMF	-0,33	-0,44	-0,77	8	*****
3	YAPI KREDİ EMEKLİLİK A.Ş. FLEXIBLE PMF	-0,35	-0,48	-0,83	17	****
4	ANADOLU HAYAT EMEKLİLİK A.Ş. FLEXIBLE PMF	-0,28	-0,67	-0,95	25	****
5	AVİVASA EMEKLİLİK VE HAYAT A.Ş. FLEXIBLE PMF	-0,26	-0,70	-0,96	33	****
6	ANADOLU HAYAT EMEKLİLİK A.Ş. FLEXIBLE GROWTH PMF	-0,25	-0,81	-1,06	42	***
7	AVİVASA EMEKLİLİK VE HAYAT A.Ş. FLEXIBLE GROWTH PMF	-0,28	-0,81	-1,09	58	***
7	AVİVASA EMEKLİLİK VE HAYAT A.Ş. BALANCED PMF	-0,30	-0,79	-1,09	58	***
8	BAŞAK GROUPAMA EMEKLİLİK A.Ş. FLEXIBLE PMF	-0,42	-0,68	-1,10	67	**
9	OYAK EMEKLİLİK A.Ş. COMPOSITE GROWTH PMF	-0,38	-0,91	-1,29	75	**
10	KOÇ ALLIANZ HAYAT VE EMEKLILIK A.Ş. FKEXIBLE GROWTH PMF	-0,62	-0,81	-1,43	83	**
11	AEGON EMEKLİLİK VE HAYAT A.Ş. BALANCED PMF	-0,60	-1,01	-1,61	92	*
12	FORTIS EMEKLİLİK VE HAYAT A.Ş. FLEXIBLE PMF	-0,51	-1,16	-1,67	100	*
	AVERAGE	**-0,35**	**-0,72**	**-1,07**		

(See Table 9) The pension mutual funds which are grouped into Stock Funds, the best performing five star fund is Anadolu Hayat Emeklilik A.Ş. Stock Growth PMF whereas the worst performing one star fund is Koç Allianz Hayat Emeklilik A.Ş. ISE 30 Index Specialized PMF.

Table 9: Stock Funds

Rank	Name of Fund	3 Year Raw Return × 40%	5 Year Raw Return × 60%	Result	Percent Rank %	Number of Stars
1	ANADOLU HAYAT EMEKLİLİK A.Ş. STOCK GROWTH PMF	-0,17	-0,84	-1,01	0	*****
2	VAKIF EMEKLİLİK A.Ş. STOCK GROWTH PMF	-0,15	-0,87	-1,02	14	****
3	YAPI KREDİ EMEKLİLİK A.Ş. STOCK GROWTH PMF	-0,17	-0,93	-1,10	29	****
4	AEGON EMEKLİLİK VE HAYAT A.Ş. STOCK INCOME PMF	-0,19	-0,94	-1,13	43	***
5	GARANTİ EMEKLİLİK VE HAYAT A.Ş. STOCK GROWTH PMF	-0,21	-0,99	-1,20	57	***
6	OYAK EMEKLİLİK A.Ş. STOCK GROWTH PMF	-0,24	-1,01	-1,25	72	**
7	BAŞAK GROUPAMA EMEKLİLİK A.Ş. STOCK GROWTH PMF	-0,22	-1,07	-1,29	86	**
8	KOÇ ALLIANZ HAYAT EMEKLİLİK A.Ş. ISE 30 INDEX SPECIALIZED PMF	-0,29	-1,02	-1,31	100	*
	AVERAGE	**-0,21**	**-0,96**	**-1,17**		

(See Table 10) The pension mutual funds which are grouped into Gov't Bonds and Bills Funds, the best performing five star fund is Başak Groupama Emeklilik A.Ş. Gov't Bonds and Bills Income PMF whereas the worst performing one star fund is Fortis Emeklilik ve Hayat A.Ş. Gov't Bonds and Bills Income PMF.

Table 10: Gov't Bonds and Bills Funds

Rank	Name of Fund	3 Year Raw Return × 40%	5 Year Raw Return × 60%	Result	Percent Rank %	Number of Stars
1	BAŞAK GROUPAMA EMEKLİLİK A.Ş. GOV'T BONDS AND BILLS INCOME PMF	-0,29	-0,44	-0,73	0	*****
2	AVİVASA EMEKLİLİK VE HAYAT A.Ş. GOV'T BONDS AND BILLS INCOME PMF *	-0,25	-0,49	-0,74	10	*****
3	YAPI KREDİ EMEKLİLİK A.Ş. GOV'T BONDS AND BILLS INCOME PMF	-0,28	-0,47	-0,75	20	****
4	GARANTİ EMEKLİLİK VE HAYAT A.Ş. GOV'T BONDS AND BILLS INCOME PMF	-0,30	-0,49	-0,79	30	****
5	ANADOLU HAYAT EMEKLİLİK A.Ş. GOV'T BONDS AND BILLS INCOME PMF	-0,32	-0,48	-0,80	40	***
6	AVİVASA EMEKLİLİK VE HAYAT A.Ş. GOV'T BONDS AND BILLS INCOME PMF **	-0,40	-0,59	-0,99	50	***
7	KOÇ ALLIANZ HAYAT EMEKLİLİK A.Ş. GOV'T BONDS AND BILLS INCOME PMF	-0,42	-0,58	-1,00	60	***
8	OYAK EMEKLİLİK A.Ş. GOV'T BONDS AND BILLS INCOME PMF	-0,36	-0,72	-1,08	70	**
9	VAKIF EMEKLİLİK A.Ş. GOV'T BONDS AND BILLS INCOME PMF	-0,52	-0,59	-1,11	80	**
10	AEGON EMEK. VE HAYAT A.Ş. GOV'T BONDS AND BILLS INCOME PMF	-0,49	-0,73	-1,22	90	*
11	FORTIS EMEKLİLİK VE HAY. A.Ş. GOV'T BONDS AND BILLS INCOME PMF	-0,53	-0,75	-1,28	100	*
	AVERAGE	**-0,38**	**-0,58**	**-0,96**		

*AE2, **AVK fund codes.

(See Table 11) The pension mutual funds which are grouped into International-Currency Indexed Funds, the best performing five star fund is Koç Allianz Hayat Emeklilik A.Ş. Gov't Eurobond Income PMF whereas the worst performing one star fund is Avivasa Emeklilik ve Hayat A.Ş. International Composite Income PMF.

Table 11: International-Currency Indexed Funds

Rank	Name of Fund	3 Year Raw Return × 40%	5 Year Raw Return × 60%	Result	Percent Rank %	Number of Stars
1	KOÇ ALLIANZ HAYAT EMEK. A.Ş. GOV'T EUROBOND INCOME PMF	-0,47	-0,77	-1,24	0	*****
2	FORTIS EMEK. VE HAYAT A.Ş. FX INVESTMENT INSTRUMENTS INCOME PMF	-0,56	-0,80	-1,36	7	*****
3	AVİVASA EMEK. VE HAYAT A.Ş. GOV'T EUROBOND INCOME PMF	-0,57	-0,83	-1,40	14	****
4	ANADOLU HAY. EMEK. A.Ş. COMPOSITE BONDS AND BILLS INCOME (USD) PMF	-0,58	-0,83	-1,41	29	****
4	VAKIF EMEK. A.Ş. GOV'T EUROBOND INCOME PMF	-0,57	-0,84	-1,41	29	****
5	KOÇ ALLIANZ HAY. EMEK. A.Ş. GOV'T BONDS AND BILLS (FX) INCOME PMF	-0,62	-0,87	-1,49	36	***
6	AVİVASA EMEK VE HAY. A.Ş. COMPOSİTE BONDS AND BILLS INCOME (EURO) PMF	-0,66	-0,86	-1,52	43	***
7	ANADOLU HAY. EMEK. A.Ş. INTERNATIONAL COMPOSITE GROWTH PMF	-0,59	-0,94	-1,53	57	***
7	ANADOLU HAY. EMEK. A.Ş. COMPOSITE BONDS AND BILLS INCOME (EURO) PMF	-0,65	-0,88	-1,53	57	***
8	AVİVASA E. VE HAYAT A.Ş. GOV'T BONDS AND BILLS INCOME (USD) PMF	-0,66	-0,88	-1,55	64	***
9	BAŞAK EMEK. A.Ş. GOV'T BONDS AND BILLS (FX) INCOME PMF	-0,68	-0,88	-1,56	72	**
10	FORTIS EMEK. VE HAY. A.Ş. GOV'T BONDS	-0,71	-0,96	-1,67	79	**

	AND BILLS (FX) INCOME PMF					
11	YAPI KREDİ EMEK. A.Ş. INTERNATIONAL COMPOSITE INCOME PMF	-0,61	-1,14	-1,75	86	**
12	GARANTİ EMEK. VE HAY. A.Ş. INTERNATIONAL BONDS AND BILLS INCOME PMF	-0,83	-0,98	-1,81	93	*
13	AVİVASA EMEK. VE HAY. A.Ş. INTERNATIONAL COMPOSITE IMCOME PMF	-0,88	-1,22	-2,10	100	*
	AVERAGE	-0,64	-0,91	-1,55		

(See Table 12) The pension mutual funds which are grouped into Liquid Funds, the best performing five star fund is Avivasa Emeklilik ve Hayat A.Ş. Gov't Bonds and Bills Liquid PMF whereas the worst performing one star fund is Fortis Emeklilik ve Hayat A.Ş. Composite Gov't Bonds and Bills Liquid PMF.

Table 12: Liquid Funds

Rank	Funds Name	3 Year Raw Return × 40%	5 Year Raw Return × 60%	Result	Percent Rank %	Number of Stars
1	AVİVASA EMEKLİLİK VE HAYAT A.Ş. GOV'T BONDS AND BILLS LIQUID PMF*	-0,33	-0,51	-0,84	0	*****
2	GARANTİ EMEKLİLİK VE HAYAT A.Ş. GOV'T BONDS AND BILLS LIQUID PMF	-0,36	-0,49	-0,85	8	*****
3	OYAK EMEKLİLİK A.Ş. LIQUID PMF	-0,36	-0,51	-0,87	17	****
4	FORTIS EMEKLİLİK VE HAYAT A.Ş. GOV'T BONDS AND BILLS LIQUID PMF	-0,37	-0,52	-0,89	33	****
4	YAPI KREDİ EMEKLİLİK A.Ş. GOV'T BONDS AND BILLS LIQUID PMF	-0,37	-0,52	-0,89	33	****
5	KOÇ ALLIANZ HAYAT EMEKLİLİK A.Ş. GOV'T BONDS AND BILLS LIQUID PMF	-0,40	-0,57	-0,97	42	***
6	ANADOLU HAYAT EMEKLİLİK A.Ş. GOV'T BONDS AND BILLS LIQUID PMF	-0,41	-0,60	-1,01	50	***
7	AEGON EMEKLİLİK VE HAYAT A.Ş. GOV'T BONDS AND BILLS LIQUID PMF	-0,45	-0,60	-1,05	58	***
8	VAKIF EMEKLİLİK A.Ş. GOV'T BONDS AND BILLS LIQUID PMF	-0,51	-0,68	-1,19	67	**
9	BAŞAK GROUPAMA EMEKLİLİK A.Ş. GOV'T BONDS AND BILLS LIQUID PMF	-0,52	-0,81	-1,33	83	**
9	AVİVASA EMEKLİLİK VE HAYAT A.Ş. GOV'T BONDS AND BILLS LIQUID PMF**	-0,57	-0,76	-1,33	83	**
10	KOÇ ALLIANZ HAYAT EMEKLİLİK A.Ş. GOV'T BONDS AND BILLS LIQUID PMF (TEMP. ACC.)	-0,79	-1,08	-1,87	92	*
11	FORTIS EMEKLİLİK VE HAYAT A.Ş. COMPOSITE GOV'T BONDS AND BILLS LIQUID PMF (TEMP. ACC.)	-0,82	-1,19	-2,01	100	*
	AVERAGE	-0,48	-0,69	-1,17		

* AE1, **AVL fund codes.

(See Table 13) As a result if we look the summary performance results of the pension mutual funds which are grouped into five, the best performing 5-star funds are PMF, Başak Groupama A.Ş. Gov't Bonds and Bills Income PMF, Koç Allianz Hayat Emeklilik A.Ş. Gov't Eurobond Income PMF and Avivasa Emeklilik ve Hayat A.Ş. Gov't Bonds and Bills Liquid PMF*. Whereas the worst performing 1-star funds are Fortis Emeklilik ve Hayat A.Ş. Flexible PMF, Koç Allianz Hayat Emeklilik A.Ş. ISE 30 Index Specialized PMF, Fortis Emeklilik ve Hayat A.Ş. Gov't Bonds and Bills Income PMF, Avivasa Emeklilik ve Hayat A.Ş. International Composite Income PMF, Fortis Emeklilik ve Hayat A.Ş. Composite Gov't Bonds and Bills Liquid PMF (Temp. Acc.).Anadolu Hayat Emeklilik A.Ş. Flexible Income PMF, Anadolu Hayat Emeklilik A.Ş. Stock Growth

Table 13: The Best and Worst Fund Which Are Grouped into Five (Weighted 40% Three Year and 60% Five Year Raw Return)

The Best Performing Funds	Categories	Result	Number of Stars
ANADOLU HAYAT EMEKLİLİK A.Ş. FLEXIBLE INCOME PMF	Flexible-Balanced Funds	-0,08	*****
ANADOLU HAYAT EMEKLİLİK A.Ş. STOCK GROWTH PMF	Stock Funds	-1,01	*****
BAŞAK GROUPAMA EMEKLİLİK A.Ş. GOV'T BONDS AND BILLS INCOME PMF	Gov't Bonds and Bills Funds	-0,73	*****
KOÇ ALLIANZ HAYAT EMEK. A.Ş. GOV'T EUROBOND INCOME PMF	International-Currency Indexed Funds	-1,24	*****
AVİVASA EMEKLİLİK VE HAYAT A.Ş. GOV'T BONDS AND BILLS LIQUID PMF*	Liquid Funds	-0,84	*****

The Worst Performing Funds	Categories	Result	Number of Stars
FORTIS EMEKLİLİK VE HAYAT A.Ş. FLEXIBLE PMF	Flexible-Balanced Funds	-1,67	*
KOÇ ALLIANZ HAYAT EMEKLİLİK A.Ş. ISE 30 INDEX SPECIALIZED PMF	Stock Funds	-1,31	*
FORTIS EMEKLİLİK VE HAY. A.Ş. GOV'T BONDS AND BILLS INCOME PMF	Gov't Bonds and Bills Funds	-1,28	*
AVİVASA EMEK. VE HAY. A.Ş. INTERNATIONAL COMPOSITE IMCOME PMF	International-Currency Indexed Funds	-2,10	*
FORTIS EMEKLİLİK VE HAYAT A.Ş. COM. GOV'T BONDS AND BILLS LIQUID PMF (TEMP.ACC.)	Liquid Funds	-2,01	*

CONCLUSION

A pension mutual fund is a pool of assets forming an independent legal entity that are bought with the contributions to a pension plan for the exclusive purpose of financing future pension plan benefits. The objective for any pension scheme must be to fund the continuation of living standards available in retirement at an acceptable cost. Therefore performance evaluation and rating of pension mutual funds is a necessary and beneficial process which provides performance feedback and signals to pension members about their pension fund investments and retirement benefits.

In developed countries such as US and UK its very important and ethical to evaluate performance of retirement funds (such as 401 (k), IRA or other individual/private retirement accounts) using with different performance techniques. And this technique partly implemented in some developed countries.

In this study we use Morningstar-star rating system in Turkish pension mutual fund industry to show weighted performance and rating results during 3 and 3-5 year periods. Especially Morningstar-star rating system is widely used in the mutual fund industry. But we implemented this technique into Turkish pension mutual fund industry which pension mutual fund industry commenced on 2003.

The pension mutual funds 3 and 3-5 year weighted performance results are summarized as follows;

▪ All pension mutual funds have a negative Morningstar overall performance. This shows that pension mutual funds mostly have lower performance than the 91 day Turkish T-bill rate and also their Morningstar risk is higher than the Morningstar return.

▪ The Capital Asset Pricing Model (CAPM) is consistent with investors (should) require a **higher return** for holding a more risky assets. But in pension mutual funds which are having long-term investment maturities, higher **risk** taking doesn't make any difference **for longer period**. However the stock fund category is showing the best performance in 3 year, liquid and stock funds weighted 3-5 year overall performances are equal.

▪ The best performing pension mutual fund category does not show performance persistancy. For example compared with the other funds average, Stock Funds is the best performing fund category in 3 year, but in weighted 3-5 year the best performing fund category is Gov't Bonds and Bills Funds. Howewer there is a performance persistancy among

the worst categories. Compared with the weighted average of the 3 and 3-5 year, the worst performing fund category is International-Currency Indexed Funds.

▪ The vast majority of the best and worst pension mutual funds show performance persistancy in its category. For example the best 5-star funds in 3 year such as Anadolu Hayat Emeklilik A.Ş. Flexible Income PMF, Koç Allianz Hayat Emeklilik A.Ş. Gov't Eurobond Income PMF and Avivasa Emeklilik ve Hayat A.Ş. Gov't Bonds and Bills Liquid PMF* are still the best performing funds in 3-5 year. Besides the worst performing 1-star funds such as Koç Allianz Hayat Emeklilik A.Ş. ISE 30 Index Specialized PMF, Fortis Emeklilik ve Hayat A.Ş. Gov't Bonds and Bills Income PMF, Avivasa Emeklilik ve Hayat A.Ş. International Composite Income PMF, Fortis Emeklilik ve Hayat A.Ş. Composite Gov't Bonds and Bills Liquid PMF (Temp Acc.) are still the worst performing funds in 3-5 year.

But pension mutual funds performance data quoted represents past performance and this performance results does not guarantee future results. So the **current performance of the fund may be lower or higher than the performance quoted.**

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3.5 Corporate Governance

REMUNERATION COMMITTEE, OWNERSHIP STRUCTURE AND PAY-FOR-PERFORMANCE: EVIDENCE FROM MALAYSIA

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Abstract:

We examine the association between remuneration committee and ownership structures on pay-for-performance. We find that appropriately structured remuneration committee and institutional shareholders enhance the pay-for-performance elasticity. We also find that pay-for-performance relationship is weaker at high level of managerial ownership, consistent with the managerial power model. We show that remuneration committee and institutional investors play important monitoring role in ensuring the interests of executive and shareholder are aligned. The evidence shows that both the principal-agent and managerial power views have relevancy in Malaysia. One of the implications from this study is that investors should be wary of companies that have severe agency problems. These are companies that do not make it transparent that they practice performance-related pay scheme and have very high managerial ownership (agency problem is between controlling shareholders and minority shareholders due to management entrenchment). In such companies there is a possibility that the managers are able to extract rent in the form of excessive pay.

INTRODUCTION

Executive remuneration has become one of the prominent topics in contemporary

corporate governance. The mainstream view, derived from the principal-agent

framework, is that a well designed compensation contract helps to incentivize

executives to enhance shareholder value (e.g., Jensen and Murphy, 1990; Murphy,

1999). Strong pay-for-performance sensitivity is seen as the key metric in aligning the

divergent incentives of executives and shareholders. However, a more skeptical view

sees compensation contract as a perverse instrument of greed rather than a

shareholder-friendly incentive mechanism (Bebchuk and Fried, 2006). One form of

managerial opportunism, or private benefits of control, is when CEOs and top

management awarded themselves stupendous pay-without-performance to the

detriment of shareholders. In other words, the board of directors sets compensation

that deviates from arm's length contracting. Negative coverage on grossly overpaid

top management is regularly featured in the international financial press (Core, Guay,

& Larcker, 2008). Malaysia is not spared. In 2007, angry shareholders of Transmile

Group voted against the payment of directors' fees for the financial year ended 2006

after financial irregularities were made public.[163]

The ample empirical evidence suggests that executive compensation is

largely insensitive to firm performance (e.g., Jensen and Murphy, 1990; Garen, 1994;

Barkema and Gomez-Mejia, 1998; Zhou, 2000; Firth, Fung, & Riu, 2007; Merhebi,

Pattenden, Swan, & Zhou, 2006; Duffhues and Kabir, 2007). This low pay-for-

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[163] Transmile Group, the air cargo carrier, attracted attention in the early part of 2007 when its external auditor Deloitte & Touche blew the whistle after discovering irregularities in prior years' audited financial statements, involving unsubstantiated sales of more than RM600 million from 2004 to 2006. Subsequently, Transmile Group restated its financial statements from a profit of RM158 million to a loss of RM126 million for the year ended December 2006. In July and November 2007, its former CEO, CFO and two non-executive directors were charged in court with abetting the company in providing misleading financial statements. At the AGM held in September 2007, more than two third of the shareholders voted against the payment of director fees for 2006 totalling RM145,000. The non-executive Chairman of Transmile Group, who is an ex-Transport Minister, resigned shortly before the said AGM. He joined the board of Transmile Group in 2004 when the Kuok Group emerged as a new controlling shareholder.

performance sensitivity raises concern that executives pay arrangements do not provide sufficient incentives to deliver performance or they create agency costs in the form of excess pay (Bebchuk and Fried, 2003).

Given the observed decoupling of pay and performance, a number of studies have attempted to unravel how the pay-for-performance link can be strengthened in order to fulfill the promise of executive compensation as a mechanism to align the interests of executives and shareholders by investigating the role of remuneration committee and ownership structure. Conyon (1997) examines the influence of remuneration committee adoption in UK companies, and finds that, in some circumstances, the adoption lower the growth rates in top director compensation. Conyon and Peck (1998) investigate the affect of outside directors in remuneration committee decisions, and report that they enhance the pay-for-performance sensitivity. However, studies in the US by Anderson and Bizjak (2003) and Vafeas (2003) report insignificant results on the influence of remuneration committee independence towards level of CEO pay. A more recent study by Sun and Cahan (2009) attempts to provide explanation for the mixed findings. Using a broader and richer measure of remuneration committee quality instead of just focusing on independence, they show that the sensitivity of CEO compensation to accounting performance is related to the governance quality of the remuneration committee, for US companies with fully independent remuneration committees.

With respect to ownership structure, Gomez-Mejia, Tosi and Hinken (1987) and Tosi and Gomez-Mejia (1989) document that the responsiveness of CEO pay to performance is greater in owner-controlled firm than management-controlled firm in the US manufacturing sector.[164] A meta analysis of CEO pay studies by Tosi, Werner,

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[164] Firm is referred as owner-controlled when there is single equity holder who controls as little as 5 percent of the voting stock. Meanwhile, firm is referred as management-controlled when there is no equity holder with at least 5 percent of the stock (Tosi and Gomez-Mejia, 1989).

Katz and Gomez-Mejia (2000) concludes that firm size rather than performance is the strongest predictor of CEO pay in management-controlled firms, while performance-related pay is more prevalent in for owner-controlled firms. Further evidence on the importance of ownership structure in the pay-for-performance linkage for countries in Asia is provided by Firth et al. (2007) and Kato and Long (2005). Their studies show that in China, the pay-for-performance link is weaker or insignificant in listed firms owned by the state bureaucracy. Meanwhile, Kato, Kim and Lee (2007) document that pay-for-performance link is significant for Korean non-Chaebol firms but negligible for Chaebol firms.

Denis and McConnell (2003) suggest that the interrelationship between executive compensation and corporate governance mechanisms remains a fruitful area for research worldwide. Bruce, Buck and Main (2005) suggest that country-level institution should be factored into in analyzing executive pay. Furthermore, Kabir (2008) observes that not much is known about how firms across the world reward their executives outside the US, primarily due to the lack of publicly available information on executive pay and very intensive data collection requirements. We continue this line of research and investigate whether internal governance mechanisms, particularly the remuneration committee structure and ownership structure, influence the pay-for-performance link using a unique data set on remuneration practices and directors' remuneration in Malaysia.

In addition, this study is also motivated by Conyon (2006) who challenged researchers to distinguish between the two competing theories of executive compensation namely the principal-agent and managerial power. Thus, our study also attempts to disentangle the managerial power and principal-agent views of executive pay. As mentioned earlier, the principal-agent (or optimal contracting) view of executive compensation holds that a well designed incentive contract whereby

managers are suitably rewarded for generating shareholder value helps to closely align the interests of managers and shareholders (e.g., Jensen and Murphy, 1990; Core, Holthausen and Larcker (1999). However, Bebchuk and Fried (2003) argue that the promise that managerial incentive contract is a partial solution to the agency problem remains largely unfulfilled. Bebchuk and Fried (2003) are of the view that executive compensation exacerbates the agency problem by promoting rent-extracting on the part of the executives. In their alternative managerial power story on executive compensation, powerful CEOs have great sway over their own pay by capturing the board, resulting in rent extraction in the form of greater CEO pay, or pay-without-performance, to the detriment of shareholders.

Malaysia provides a unique setting to examine the applicability of managerial power and principal-agent views in the determination of executive pay. Following the introduction of the voluntary Malaysian Code on Corporate Governance (MCCG) in 2000, companies listed on Bursa Malaysia are required to make public the Statement of Corporate Governance incorporating disclosure on directors' remuneration. The MCCG emphasizes the following principles on directors' remuneration. Firstly, in the case of executive directors, remuneration should be structured so as to link rewards to corporate and individual performance. Secondly, companies should establish a formal and transparent procedure for developing policy on executive remuneration and for fixing the remuneration packages of individual directors. And thirdly, company's annual report should contain details of the remuneration of each director. Under best practices in corporate governance, the MCCG recommends companies to establish a remuneration committee consisting of wholly or mainly non-executive directors. The committee is allowed to get an advice from consultant relating to executive directors' remuneration and recommend to the board an appropriate remuneration for the executive directors.

By exploiting the enhanced disclosures on the activities of remuneration committees and directors' pay, and whether the companies observe the corporate governance principle by linking executive pay to performance, we expect that companies are subject to the dark side of managerial power when they do not subscribe to performance-related pay scheme and at high level of managerial ownership, level of pay is an increasing function of managerial ownership. Specifically, the objectives of this study are (1) to examine whether companies that publicly disclosed that they subscribe to the MCCG's principles in structuring the executive remuneration so as to link rewards to corporate and individual performance actually practice what they preach, (2) to examine whether strong remuneration committee structure enhances the pay-for-performance link, (3) to examine whether ownership structures influence the pay-for-performance link.

Using data from 2003-2005, our results show that companies that claim that their reward system is related to performance, generally 'do what they say', and companies with strong remuneration committees appear to design their executive pay packages so as to reward their executives for creating shareholder value. It appears that institutional investors are associated with higher pay-for-performance relationship. The pay-for-performance relationship seems to weaken when managerial ownership exceeds 35 percent, possibly due to the dark side of managerial power.

Our study contributes to executive pay-for-performance literature in a few ways. Firstly, we extend the measurement of the governance quality of remuneration committee by including the activities of the remuneration committees. And secondly, we show that in situation where managerial power is at its most destructive, when companies have very high managerial ownership and at the same time they do not

1021

subscribe to performance-related pay scheme, rent extraction by executives in the form of excessive pay is likely.

The paper is organized as follows. The next section summarizes the prior literature on pay-for-performance link and develops the hypotheses to achieve our research objectives. This is followed by a description of the pay-for-performance model. Next, we explain the sample selection and data sources. The penultimate section presents the results and the final section concludes the paper and discusses the implications of our study for the governance of publicly traded companies.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Pay-for-Performance Link

There is a copious literature on executive remuneration studies using the principal-agent framework. In this framework, shareholder (principal) expects the executive (agent) to put their greatest effort to maximize firm value, which in turn increases the shareholder's wealth. In ensuring that the alignment exists, the theory maintains that firms seek to design the most efficient compensation packages possible in order to attract, retain and motivate executives (Conyon, 2006).

The empirical study by Jensen and Murphy (1990), considered as one of the most comprehensive, has produced dismal results on the pay-for-performance alignment, which justifies shareholders' disquiet on the issue of pay and performance. They conclude that there is little support for agency theory notions that optimal contracting aligns executive and shareholder interests. Other studies have also failed to provide strong confirming evidence on the association of pay and

performance such as Tosi and Gomez-Mejia (1994), Barkema and Gomez-Mejia (1998) and Jensen and Murphy (2004).

Recently, discussion on executive remuneration issues has shifted from the dominance of optimal contract (principal-agent theory) to managerial power theory (Barkema and Penning, 1998; Bebchuk, Fried, & Walker, 2002; Bebchuk and Fried, 2003; 2004). Bebchuk and Fried (2003; 2004) and Bebchuk et al. (2002) claim that CEOs have too much power over their boards. Compensation contracts are not negotiated at arm's length as they would be if shareholders were at the bargaining table, because board members care more about their standing with the CEO than with the shareholders. The lack of arm's length bargaining has resulted in excessive pay levels, weak pay-for-performance relationships, and inefficient forms of pay.

In Malaysia, realizing the importance of executive remuneration as a mechanism in aligning the interest of shareholder and executive, the MCCG strongly advocates the alignment between executive pay and performance. Some companies do in fact make a clear positive statement that they practice performance-based pay in the annual reports, while others are silent about it. Appendix 1 provides two examples of the performance-based pay disclosures, or lack of it, extracted from the Statements of Corporate Governance of the two companies. Our first research question, which is to ascertain whether companies that claim they follow performance-based pay actually practice it, leads to the following hypotheses:

Hypothesis (H_1): Companies that disclose that they reward executive directors based on firm or individual performance have stronger pay-for-performance relationship.

Remuneration Committee Structure and Performance-Related Pay

Many prominent scholars in agency theory and remuneration studies like Jensen and Meckling (1976), Fama (1980), Fama and Jensen (1983), Jensen and Murphy (1990; 2004) argue that corporate governance mechanisms in the form of incentive (i.e. remuneration) or monitoring (i.e. ownership structures and board characteristics) are important in aligning the interest of shareholders and executives. The theory presumed that effective boards of directors have effect on executive remuneration given that they have the authority mandated by the shareholders to look into the matter of executive remuneration. The board of directors, particularly through its remuneration committee, is involved in designing a desirable remuneration package for executives in line with governing objective, and the corporate vision and strategy of company (Jensen and Murphy, 2004). Jensen and Murphy (2004) argue that corporate governance and remuneration policies are highly inter-related where bad governance can easily lead to value-destroying pay practices. They propose a number of recommendations particularly on the roles and functions of remuneration committee in pay-setting process. These include remuneration committees must take full control of the remuneration process, policies and practices, remuneration committees should employ their own professional contracting agents when hiring new top-level managers, remuneration committees should give careful consideration to issuing executive stock options with exercise prices that increase with the company's cost of capital, etc.

In ensuring its effectiveness, the remuneration committee should be independent from executives' influence and its members should be exclusively non-executive directors. Murphy (1999) observes that most large US corporations have a compensation committee consisting of two or more independent directors. However, Bebchuk and Fried (2003) cautions that normally independent directors are proposed

and nominated as board members by the influence of executive directors. Thus, to what extent the non executive directors can be truly independent is an open question. The obstacles to achieving a truly independent remuneration committee include the following: (1) CEO often nominates non-executive directors, (2) non-executive directors must rely on the executives for most of the information they receive, (3) non-executive directors need good relationships with the executives if they are to function well in guiding corporate policy, (4) non executive directors often share a similar backgrounds and interest with executive directors, and frequently, they themselves are senior executives in other companies.

Vafeas (2003) examines the relation between insider membership in remuneration committees and CEO remuneration, and finds a steady decline in the number of committees with insider participation, and opportunistic behavior by insiders in setting pay. However, Anderson and Bizjak (2003) find little evidence that greater remuneration committee independence affects executive remuneration. Moreover, their findings show that committee consisting of insiders or the CEO does not award excessive remuneration or lower overall incentives. They also find no evidence that pay decreases or total incentives increase when CEOs come off the remuneration committee.

UK studies by Conyon (1997), Conyon and Peck (1998), Laing and Wier (1999), and Ezzamel and Watson (2002) document the invaluable role of the remuneration committee. Conyon (1997) and Laing and Wier (1999) show that the existence of remuneration committee influences the pay level of top directors. Conyon and Peck (1998) suggest that remuneration committee independence influences pay-for-performance sensitivity. Ezzamel and Watson (2002) show that remuneration committee plays important roles in executive pay-setting process. Their results suggest that members of remuneration committees in the UK tend to

determine CEO pay awards on the basis of: (1) their own pay levels, (2) the percentage change (typically increase) in their own pay awards, and (3) an element which attempts to maintain parity with comparable CEOs in other firms. On the other hand, Conyon and He (2004) find that the presence of significant shareholders on the remuneration committee is associated with lower CEO pay and higher CEO equity incentives. Firms with higher paid remuneration committee members are associated with greater CEO compensation and lower equity incentives. Nevertheless, they find no evidence that insiders or CEOs of other firms serving on the remuneration committee raise the level of CEO pay or lower CEO equity incentives.

The latest study by Sun and Cahan (2009) provides an important insight that CEO compensation is more positively associated with accounting earnings when companies have high remuneration committee quality. Based on the above empirical results and discussions, we hypothesized the following:

Hypothesis (H2): Companies with good remuneration committee structures have stronger pay-for-performance relationship than their counterparts with poorly structured remuneration committee.

Ownership Structure and Performance-Related Pay

Ownership structure is another important corporate governance mechanism in aligning the interest of shareholders and executives from an agency theory perspective (Jensen and Meckling, 1976; Fama and Jensen, 1983; and Hart, 1995). Jensen and Meckling (1976) theorize that stock ownership by management could reduce agency problems. As their stakes rise, managers pay a larger share of

agency costs and, therefore, are less likely to expropriate wealth from other stockholders.

A number of studies show that managerial ownership significantly influences the level of executive pay and pay-for-performance relationship although the results are mixed. Core et al. (1999) find that CEO remuneration is a decreasing function of the CEO's ownership stake and the existence of an external blockholder who owns at least 5 percent of the equity. Brick, Palmon, and Wald (2006) find that the higher the percentage owned by the CEO, the lower the levels of CEO remuneration and the lower the fraction of non-cash compensation received.

On the other hand, Holderness and Sheehan (1988) provide evidence that executives who are majority shareholders (defined as individuals owning at least half but not all of the common stock) in publicly held corporations receive marginally higher salaries than other officers. Zingales (1995) shows stronger evidence of executives using their controlling position in their firms to pay themselves more. He examines the remuneration as a proxy for private benefit of the largest shareholder in companies with differential voting rights. He finds that such shareholders, who are typically the CEO, are paid significantly more and that the amount is correlated with their voting power. The evidence supports the "skimming" view of managerial remuneration as it suggests that such executives are paying themselves more.

Similar to Holderness and Sheehan (1988) and Zingales (1995) evidence in the US, Mitsudome (2000) finds that the level of compensation increases as the level of managerial ownership increases among Japanese firms, suggesting that firms with a higher level of managerial ownership experience greater agency problems. Mitsudome (2000) finding is supported by another research using Japanese data by

1027

Basu, Hwang, Mitsudome and Weintrop (2007). Basu et al. (2007) find that top executive pay is higher in firms with weaker corporate governance mechanisms. They use management ownership and family control, keiretsu affiliation, the presence of outside directors and board size to measure corporate governance.

A study by Cheung, Stouraitis, and Wong (2005) in Hong Kong finds a positive relationship between managerial ownership and CEO cash emoluments for levels of managerial ownership of up to 35 percent in small market cap firms and in family controlled firms, and up to 10 percent in large firms. They further suggest that in the presence of information asymmetry between owners-managers and outside investors (which are likely in small firms), the former may use their ownership rights to extract higher salaries for themselves.

The mixed evidence on the association between ownership structure and pay-for-performance relationship points to the relevance of both the managerial power and principal agent views of CEO compensation. The challenge is to disentangle the two. Thus, we formulate the following hypotheses in resolving this issue.

If principal agent view is more dominant, then we expect that the pay-for-performance relationship is increasing with higher level of managerial ownership, as hypothesized in H3a.

Hypothesis (H3a): The pay-for-performance relationship is stronger as managerial ownership increases.

However, this relationship may disappear at high level of managerial ownership due to the dark side of managerial power, as hypothesized in H3b.

Hypothesis (H3b): The pay-for-performance relationship is weakening at extremely high level of managerial ownership.

Apart from managerial ownership, another important dimension of corporate ownership is the substantial shareholdings by non-management blokcholders, typically institutional shareholders. The literature predicts that blockholders will be more active monitors of management than atomistic shareholders because they have more to gain from improved firm performance. The benefits the large blockholders derive from the monitoring activities are more likely to exceed the costs that they incur (Shleiffer and Vishny, 1986).

In the US, Cordeiro and Veliyath (2003) show that the number of blockholders holding more than 5 percent of the outstanding shares is negatively related with CEO cash remuneration but not total pay. Khan, Dharwadkar, and Brandes (2005) investigate how institutional ownership concentration and dispersion affect levels of CEO remuneration, pay mix and stock option pay sensitivity. They find that the percentage of shareholding by the largest institutional investor is associated with lower level of CEO remuneration, but that the number of blockholders holding more than 5 percent of the outstanding shares does not predict any aspects of CEO remuneration. In addition, institutional ownership dispersion is associated with increased level of remuneration. These results suggest that increases in institutional ownership concentration promote monitoring due to the needs and abilities of large institutional owners. However institutional ownership dispersion negates the beneficial effects of institutional ownership. Additionally, Hartzell and Starks (2003) find that institutional ownership concentration is positively related to the pay for performance sensitivity of executive remuneration and negatively related to the level of remuneration, even after controlling for firm size, industry, investment opportunities

and performance. They show that, for an average executive, an increase in one standard deviation in the percentage of shareholdings by the top five institutional investors is associated with (i) a greater than 20 percent increase in the sensitivity of changes in total compensation to changes in shareholder wealth, and (ii) a drop in total compensation equal to 19 percent of the sample mean.

Ozkan (2006) is one of the earliest studies that examine large non-management ownership and CEO pays the UK. He observes that institutional ownership and non- managerial and non-board-member blockholder ownership have negative impact on CEO compensation, which points to their active monitoring role. There are other studies that look at the association between ownership structures and executive remuneration in countries with high family ownership such as Hong Kong and Malaysia. Firth, Tam, and Tang (1999), using Hong Kong data, report that high institutional shareholdings are associated with lower remuneration levels. They argue that top management probably feels more constrained in engaging in self-serving behavior because of the monitoring role of institutional shareholders. A subsequent study by Cheng and Firth (2005), also using Hong Kong data, shows that institutional ownership moderate remuneration of top management. Using Malaysian data, Dogan and Smyth (2002) show a weak negative relationship between board remuneration (salaries and fees paid to all directors) and ownership concentration (a dummy variable equals 1 if the percentage of shares owned by the largest shareholder is above the median).

Kato and Long (2005), Kato et al. (2007) and Firth et al. (2007) provide further evidence on how ownership structures can strengthen or weaken the pay-for-performance link in countries with unique government ownership like China and South Korea. Kato and Long (2005) show that state ownership of China listed firms is weakening the pay-for-performance link for top managers. Firth et al. (2007) find

statistically significant pay-for-performance coefficients when the controlling shareholder is a Chinese State-Ownership-Enterprise (SOE) or private blockholder. In addition, firms with foreign investors have significant pay-for-performance sensitivities. In contrast, performance is not statistically related to change in CEO compensation for firms whose controlling shareholder is a Chinese state bureaucracy. Kato et al. (2007) estimate the pay-for-performance relations for executives of Korean firms with and without Chaebol affiliation.[165] Their result reveals non-Chaebol firms drive the significant executive pay-for-performance link. No such link is found to exist for Chaebol firms. Based on the above, we posit the following:

Hypothesis (H3c): The pay-for-performance relationship is stronger in companies with higher non-management blockholder ownership.

MODELING PAY-FOR-PERFORMANCE

Following Murphy (1999), Zhou (2000) and Merhebi et al. (2006), the pay-for-performance elasticity is measured by regressing the dependent variable (change in log of executive remuneration) on the independent variables, log of (1 + contemporaneous return) and log (1 + lagged return). The model is:

$$\Delta \ln PAY_{it} = \alpha + \beta_1 \ln(1+RET_{it}) + \beta_2 \ln(1+RET_{it-1}) + u_{it}$$

where PAY = total executives pay, and

RET= <u>stock price at period t - stock price at period t-$_1$ + dividends at period t</u>

stock price at period t$_{-1}$

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[165] Chaebol refers to several dozen large, family-controlled Korean corporate groups, assisted by government financing, which have played a major role in the South Korean economy since the 1960s. Some have become well-known international brand names, such as Samsung, Hyundai and LG (Life's Good)

The formula is similar to the one used by Zhou (2000). Stock price and dividend data are taken from Datastream. The self-computed annual rate of return (RET) in this study is similar to Return Index (RI) data from Datastream.

In testing hypothesis H1 the sample is partitioned into two subgroups according to whether the corporate governance statement disclosed that the pay is linked to performance or otherwise (performance based versus non-performance based subgroups). For hypothesis H2, the sample is divided into two subgroups, those with good or poor remuneration committee structures using the median score for remuneration committee structure as cutoff point. Meanwhile, for hypotheses H3a, H3b and H3c, the sample is divided into various subgroups according to levels of managerial ownership, local institutional ownership and foreign ownership. Kato et al. (2007) and Firth et al. (2007) use similar methods when assessing the pay-for-performance sensitivity between chaebols and non-chaebols in South Korea and various types of ownership in China.

SAMPLE AND DATA

This study uses pooled cross-sectional and time series data. The executive remuneration and corporate governance data are taken from the annual reports of the selected Bursa Malaysia listed companies for years 2003 to 2005. The 2003-2005 periods is chosen because the disclosures as required under the MCCG are effective for annual reports after June 2001. As at January 2006, slightly over 1,000 companies were listed on Bursa Malaysia comprising 646 on Main Board, 269 on Second Board and 110 on MESDAQ[166]. This study excludes MESDAQ, PN4[167] and

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[166] The MESDAQ market was created in March, 2002 as a unique market with a separate identity from the Bursa Malaysia Main and Second Boards, specifically for the capital-raising needs of technology and high-growth potential companies. The minimum paid up capital is RM2 million for technology and non-technology companies, and a minimum of RM20 million for technology incubator companies.

PN17[168] companies. MESDAQ companies are excluded since their issued and paid-up capital is considered small compared to companies on Main and Second Boards[169]. In addition, PN4 and PN17 companies are excluded due to their adverse financial conditions.

Out of the 876 remaining companies, a further 409 companies are eliminated due to changes of financial year end, de-listing, incomplete annual reports for the three consecutive years 2003 to 2005, difficulties in assessing the annual reports online, and anomalous data. The sample of 476 remaining companies is further reduced if there is unclear or no separation between executive and non-executive remuneration in the annual report. This segregation is important since this study focuses on the executive remuneration where the bulk of total directors pay goes to the executive directors[170]. Taking this into consideration, 372 companies are used as a sampling frame for this study. Due to the intensive and time consuming nature of hand collecting the executive remuneration and corporate governance data, 200 companies are chosen out of the 372 companies. Due to unavailability of data from Datastream or conflicting data between Datastream and annual reports, the final sample is reduced to 158 companies.

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[167] PN4 companies are companies which failed to meet the criteria set out under the Bursa Malaysia's "Practice Note No. 04/2001" as follows:

  i.   The company failed to report the deficit in its combined shareholders funds;
  ii.   Receivers or Managers have been appointed to manage the asset of the relevant company / its subsidiaries properties / associate companies;
  iii. Auditors have given a "disclaimer opinion" regarding the companies outlook in the company's latest accounts;
  iv.   A special manager has been appointed as provided for under the Danaharta Nasional Berhad Management Act 1998.

[168] PN17 companies are PN4 companies which are being restructured and get into trouble again and the situation is not rectified.

[169] Issued and paid-up capital for Main Board and Second Board must have a minimum of RM60 million and RM40 million respectively.

[170] Non-executive director remuneration which basically comes from fee is also taken during data collection process. Our data show that on average, 90% of director remuneration is from executive directors and about 10% from non-executive directors.

The items extracted from the annual reports on remuneration committee characteristics are based on the Standard and Poor's Governance Disclosure Scorecard 2004 (SPGDS) which reflects the global best practices of corporate governance. In the SPGDS there are 34 items under remuneration matters. However, for this study, in measuring the strength of the remuneration committee structure, only 15 items are selected as the others are not available from the Statement of Corporate Governance disclosed in the annual reports of Malaysian companies. The items included and excluded to indicate the strength of the remuneration committee structure are shown in Appendix 2.

FINDINGS

Descriptive Statistics

Table 1 describes executive pay and return on stock for the sample companies for 2003 to 2005, partitioned by performance-based companies and non-performance-based companies. For our sample, the ratio between these two groups is approximately 63 percent to 37 percent for each of the years. Comparing between performance-based companies and non-performance-based companies, the table shows that the former group has lower average executive pay, although it generates better market performance. Average executive pay has increased steadily in each year for both groups, from RM2 million in 2003 to RM2.4 million in 2003 for the performance-based companies, and from RM3.1 million in 2003 to RM3.7 million in 2005 for the non-performance-based companies. On the other hand, return on stock has steadily declined for both groups over the period 2003-2005. In the performance-based companies, it declined from 26 percent in 2003, to 16 percent in 2004 to -10 percent in 2005. The corresponding figures for the non-performance-based companies were 18 percent, 10 percent and -17 percent. The maximum total pay for the non-performance-based group

(RM79 million) is considerably higher than the performance-based group (RM19 million).

Table 1: Descriptive Statistics of Executive Remuneration and Return on Stock for 2003 to 2005 Partitioned by Performance-Based Companies and Non-Performance-Based Companies

Year	Variables	Performance-Based Companies		Non-Performance-Based Companies	
		Executive remuneration (RM)	Return on stock	Executive remuneration (RM)	Return on stock
2003	N	98	98	60	60
	Mean	2,027,223.52	0.26	3,114,971.17	0.18
	Median	1,438,625.00	0.19	1,042,070.00	0.15
	Minimum	72,000.00	-0.39	120,928.00	-0.90
	Maximum	9,483,000.00	2.76	57,896,000.00	1.65
	Std.Dev	1,909,774.01	0.43	8,315,712.95	0.46
2004	N	99	99	59	59
	Mean	2,426,227.20	0.16	3,379,855.31	0.10
	Median	1,570,880.00	0.11	1,044,655.00	0.01
	Minimum	72,000.00	-0.50	32,500.00	-0.59
	Maximum	14,433,000.00	1.54	69,496,000.00	2.63
	Std.Dev	2,626,198.87	0.36	10,081,485.07	0.56
2005	N	100	100	58	58
	Mean	2,412,797.47	-0.10	3,730,976.03	-0.17
	Median	1,597,540.00	-0.08	1,113,829.50	-0.20
	Minimum	48,000.00	-0.72	54,000.00	-0.65
	Maximum	18,940,000.00	0.63	78,788,000.00	0.69
	Std.Dev	2,859,614.23	0.30	11,524,771.33	0.31
Total	N	297	297	177	177
	Mean	2,290,047.63	0.11	3,405,120.58	0.04
	Median	1,556,480.00	0.07	1,062,000.00	-0.03
	Minimum	48,000.00	-0.72	32,500.00	-0.90
	Maximum	18,940,000.00	2.76	78,788,000.00	2.63
	Std.Dev	2,499,563.70	0.39	9,987,728.05	0.48

Table 2 describes the remuneration committee (panel A) and share ownership (panel B) of the sample companies. Nearly 90 percent of the sample companies have established remuneration committees. Slightly more than two-third of remuneration committee members are independent directors. The percentage of companies with all independent directors on the remuneration committee has

increased slightly from 12 percent in 2004 to 15 percent in 2005. About 40 percent of sample companies disclose the frequency of remuneration committee meeting. However, less than half of these companies disclose in details the attendance by each of the members. Nearly one-third of sample companies hire external compensation specialists to ascertain industry pay practices. As mentioned earlier, 63 percent of sample companies state categorically that they practice performance-related pay scheme. Less than 50 percent of sample companies use long term performance incentive. Nearly 20 percent of sample companies do not disclose executive pay in the band of RM50,000 as stipulated by the Listing Requirements of Bursa Malaysia[171]. And less than 15 percent of sample companies disclose the pay for individual executive director. For the sample companies, the scores for remuneration committee structure range from 1 to 15 with a mean and median of 7.19 and 7.25 (not tabulated) respectively.

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[171] **In relation to director's remuneration, the Code highlighted the issue under its principles and best practices parts. The principles part addresses three items, which are level and make-up of remuneration, procedure, and disclosure in annual report. With respect to executive remuneration, the principle of the Code required the following: -**

1. The level and make-up of remuneration (in the case of executive directors, the component parts of remuneration should be structured so as to link rewards to corporate and individual performance);
2. Procedure (companies should establish a formal and transparent procedure for developing policy on executive remuneration and for fixing the remuneration packages of individual directors);
3. Disclosure (company's annual report should contain details of the remuneration of each director).

Moreover, although the Code is a voluntary requirement, Chapter 15, para 15.26 of the Listing Requirement makes it compulsory for companies to disclose on the extent of compliance with the best practice set out in the Code, while allowing for some flexibility in its implementation. With respect of remuneration, first, companies are required to disclose the aggregate remuneration of directors with categorization into appropriate components (e.g. directors' fees, salaries, percentages, bonuses, commission, compensation for loss of office, benefits in kind based on estimated money value) distinguishing between executive and non-executive directors in their annual report. Second, companies are also required to disclose the number of directors whose remuneration falls in each successive band of RM50,000 distinguishing between executive and non-executive directors as well.

Table 2 :   Descriptive Statistics of Remuneration Committee Structure and Ownership Structure for 2004 to 2005

		2004	2005	2004	2005	2004	2005	2004	2005
		Mean		Max		Min		SD	
item	Variables								
	Panel A : Remuneration Committee Structure								
1	Remuneration committee existence	0.89	0.87	1	1	0	0	0.31	0.33
2	Majority remuneration committee independent	0.67	0.68	1	1	0	0	0.47	0.47
3	All remuneration committee independent	0.12	0.15	1	1	0	0	0.33	0.36
4	Remuneration committee's chairman independent	0.62	0.62	1	1	0	0	0.49	0.49
5	Remuneration committee's attendance disclose	0.15	0.18	1	1	0	0	0.35	0.39
6	Remuneration committee's frequency of meeting disclose	0.39	0.40	1	1	0	0	0.49	0.49
7	Remuneration committee recommends framework to board	0.80	0.82	1	1	0	0	0.40	0.39
8	Remuneration committee reviews all aspect of remuneration	0.23	0.23	1	1	0	0	0.42	0.42
9	Possibility of using a consultant in determining executive pay	0.33	0.34	1	1	0	0	0.47	0.47
10	Company links pay to individual or company performance	0.63	0.63	1	1	0	0	0.49	0.49
11	Executive director prevented from deciding their own pay	0.58	0.54	1	1	0	0	0.50	0.50
12	Executive director remuneration include long term incentives	0.48	0.46	1	1	0	0	0.50	0.50
13	Compliance of RM50,000 band	0.84	0.80	1	1	0	0	0.37	0.40
14	Disclosure of individual director remuneration	0.13	0.15	1	1	0	0	0.49	0.53
15	Disclosure of component analyzed by salaries, bonuses, options and long term incentives	0.78	0.82	1	1	0	0	0.41	0.38
	Remuneration Committee Score	7.15	7.23	12	15	1	1	2.41	2.62
	Panel B : Ownership Structure								
	Managerial ownership	0.28	0.28	0.73	0.74	0	0	0.22	0.23
	Local Institutional Ownership	0.12	0.12	0.90	0.91	0	0	0.18	0.18
	Foreign Ownership	0.07	0.07	0.60	0.59	0	0	0.14	0.14

Findings on Pay-for-Performance Elasticity

Table 3 summarizes the pay-for- performance relationship for the performance-based pay subgroup (column 2), non-performance-based pay subgroup (column 3) and for the full sample (column 4). Both columns 2 and 3 provide evidence in support of H1, whereby the sum of the coefficients of B_1 (change in shareholder wealth in period t) and B_2 (change in shareholder wealth in lagged period t – 1) is higher for the performance-based pay subgroup than the non-performance-based pay subgroup. Column 2 shows moderately significant and positive coefficients for both changes in current year's and previous year's shareholder wealth. Summing both coefficients, this study finds a pay-performance elasticity of 16.4 percent for the performance-related pay companies.   This study interprets the result as follow: executives in companies that have pay-performance scheme receive a 1.64 percent increase in remuneration for a 10 percent increase in shareholder wealth. The result shown in column 3 indicates that there is no significant relationship between changes in executive pay and changes in current and previous year market-based performances.

This result again supports H1, that non-performance based companies do not link their executive pay to firm performance. In sum, Malaysian companies generally 'do what they say'. When companies make a positive declaration in the annual reports that they adopt performance-related pay scheme, these disclosures are generally reliable.

Table 3 : Pay-Performance Elasticity Partitioned by Performance-Based Pay and Non-Performance-Based Pay Companies and Full Sample

Variables (1)	Performance Based (2)	Non-Performance Based (3)	Full Sample (4)
Constant	0.063***	0.036	0.055***
	(3.67)	(1.59)	(3.91)
Change in shareholder wealth (t)	0.074*	-0.010	0.039
	(1.83)	(-0.18)	(1.13)
Change in shareholder wealth (t-1)	0.090*	0.100	0.095**
	(1.83)	(1.47)	(2.34)
R-square	0.029	0.018	0.022
F-value	5.35	1.08	4.15
N	198	118	316

t-statistics are in parentheses. ***, ** and * denote significance at the 0.01, 0.05 and 0.1 level

Column 4 shows the result of pay-for-performance elasticity for the full sample. The result shows that the coefficient on the previous year's change in shareholder wealth is positive and statistically significant at the 5 percent level. However the coefficient for current year's change in shareholder wealth is insignificant. The combined coefficients imply that the executives receive a 1.34 percent increase in remuneration for a 10 percent increase in shareholder wealth. The 13.4 percent pay-for-performance elasticity in Malaysia is comparable to the evidence in Canada (16 percent) and Australia (11.6 percent) as provided by Zhou (2000) and Merhebi et al. (2006), respectively. Further, Rosen (1992) estimates that the elasticities of top executive pay with respect stock market returns are between 10 to 15 percent. On the other hand, based on S&P 500 Industrials companies, Murphy (1999) demonstrates that pay-for-performance elasticities in the US have nearly

tripled from 9 percent in the 1970s to 26 percent during the first seven years of the 1990s.

Table 4 provides evidence in support of H2 whereby companies with good remuneration committee structures have stronger pay-for-performance relationship. The result in column 2 which represents companies with good remuneration committee structures reports a positive and statistically significant coefficient for previous year's change in shareholder wealth. The combined coefficients for changes in current and previous year shareholder wealth is 0.2. This result can be interpreted as executives in companies with good remuneration structure receive a 2.0 percent increase in remuneration for a 10 percent increase in shareholder wealth. As expected, column 3 which represents companies with poor remuneration committee structures show insignificant coefficients for both changes in shareholder wealth. In sum, the results in columns 2 and 3 of Table 4 support H2, whereby the pay-for-performance elasticity for companies having good remuneration committee structure is higher than their counterparts with poor remuneration committee structure (20 percent versus 8 percent) . This implies that remuneration committee structure is an important factor in aligning the pay-for-performance relationship as proposed by the agency theorists such as Jensen and Murphy (2004). They argue that remuneration committee plays an important role in dealing with matters specifically related to executive remuneration on behalf of shareholders and executives. In addition, these results reinforce the MCCG's recommendations on the establishment and role of remuneration committee in aligning the interest of shareholders and executives.

Table 4 : Pay-Performance Elasticity Partitioned by Good and Poor Remuneration Committee Structure

Variables	Remuneration Committee Structure	
	Good	Poor
(1)	(2)	(3)
Constant	0.068***	0.039*
	(3.50)	(1.96)
Change in shareholder wealth (t)	0.062	0.020
	(1.45)	(0.40)
Change in shareholder wealth (t-1)	0.138**	0.062
	(2.28)	(1.11)
R-square	0.042	0.010
F-value	4.09	0.91
N	157	159

t-statistics are in parentheses. ***, ** and * denote significance at the 0.01, 0.05 and 0.1 level

The following paragraphs report and discuss results of pay-for-performance elasticities for different ownership structures, to provide answers for H3a, H3b and H3c. Table 5 show the pay-for-performance elasticiticities at various levels of managerial ownership. Following Morck et al. (1988) and Cheung et al. (2005), managerial ownership is partitioned into three subgroups; less than 10 percent, between 10 to 35 percent and above 35 percent. The results of Table 5 reveal that different levels of managerial ownership have different impact on the pay-for-performance elasticity.   Column 2 shows a statistically significant relationship between change in executive remuneration to contemporaneous change in shareholder wealth at 5 percent level for managerial ownership less than 10 percent. Including the coefficient on the previous year performance variable, the total elasticity is 0.156.

In addition, the pay-for-performance relationship is also statistically significant for level of managerial ownership between 10 to 35 percent. For this managerial ownership group, the relationship is significant for the lagged performance variable. Total coefficient for both variables is 0.115. However, column 4 which represents level of managerial ownership above 35 percent does not provide statistically

significant pay-for-performance link. In sum, the results of columns 2, 3 and 4 partly supports H3a. There seems to be a significant pay-for-performance link for managerial ownership up to 35 percent[172]. However, for extremely high managerial ownership, the link of pay-for-performance disappears as shown in column 4. Although not tabulated in table 4, when we run regression on determinants of level of pay by regressing the log of total executive pay on market and accounting performance measures such as return on stock and return on assets, and piecewise managerial ownership variables (less than 10 percent, 10 to 35 percent, and more than 35 percent), we find that for non-performance-based subgroup, level of pay is positively associated with managerial ownership above 35 percent. This evidence, coupled with the result in column 4 implies that when managerial ownership exceeds 35 percent, the executives tend to use their power in extracting more pay without linking the pay to performance as argued by the managerial power approach. To sum up, the results as shown in columns 2, 3 and 4 seem to suggest that different level of managerial ownership has different influence on the pay-for-performance relationship.

Table 5 : Pay-Performance Elasticity Partitioned by Levels of Managerial Ownership

Variables	Managerial Ownership		
	Below 10 percent (2)	10 to 35 percent (3)	Above 35 percent (4)
Constant	0.021 (0.66)	0.024 (1.06)	0.098*** (4.80)
Change in shareholder wealth (t)	0.148** (2.03)	-0.017 (-0.31)	0.013 (0.25)
Change in shareholder wealth (t-1)	0.008 (0.08)	0.132** (2.19)	0.089 (1.63)
R-square	0.045	0.050	0.015
F-value	2.51	2.41	1.41
N	95	88	133

t-statistics are in parentheses. ***, ** and * denote significance at the 0.01, 0.05 and 0.1 level

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[172] Beside managerial ownership less than 10%, 10% to 35% and above 35%, this study uses a variety of turning points for managerial ownership (less 10%, 10% to 50% and above 50%; less 5%, 5% to 25% and above 25%; and less 5%, 5% to 35% and above 35%). However, the results are qualitatively similar eventhough different turning points have been used.

Table 6 analyses the pay-for-performance link for various non-managerial blockholder ownerships to test H3c. The non-managerial blockholder ownerships are local institutional investors and foreign investors. For each of the non-managerial blockholder ownerships, the cutoff used is 5 percent, following Conyon and He (2004) and Tosi and Gomez-Mejia (1989).

Columns 2 and 3 show that pay-performance relationship is stronger for local institutional ownership above 5 percent than below 5 percent (0.179 versus 0.107). This implies that higher local institutional ownership generates larger pay-for-performance elasticity. Similar result is obtained for foreign ownership. Column 4 reports combined pay-for-performance elasticity of 0.151 for foreign ownership of at least 5 percent, which is higher than the combined pay-for-performance elasticity of 0.122 for foreign ownership less than 5percent.

Table 6 : Pay-Performance Elasticity Partitioned by Levels of Non-Managerial Ownership

Variables	Local Institutional Ownership		Foreign Ownership	
	ABOVE 5 percent	BELOW 5 percent	ABOVE 5 percent	BELOW 5 percent
(1)	(2)	(3)	(4)	(5)
Constant	0.053**	0.055***	0.064**	0.049***
	(2.49)	(2.94)	(2.39)	(2.96)
Change in shareholder wealth (t)	0.120**	-0.024	0.089	0.013
	(2.33)	(-0.54)	(1.56)	(0.29)
Change in shareholder wealth (t-1)	0.059	0.131***	0.062	0.109**
	(0.91)	(2.63)	(0.87)	(2.19)
R-square	0.037	0.039	0.033	0.021
F-value	3.36	3.46	2.44	2.55
N	161	155	98	218

t-statistics are in parentheses. ***, ** and * denote significance at the 0.01, 0.05 and 0.1 level

In sum, the results in Table 5 support H3c whereby pay-for-performance elasticity is stronger in companies with higher local institutional and foreign ownership. These results are consistent with other studies that show ownership matters in aligning the interests of shareholders and investors through the use of pay-performance incentive. A study by Kato et.al. (2007) reports that non-Chaebol

firms drive the significant link between pay and performance in Korea. Kato and Long (2005) report that state ownership of China listed firms weakens the pay-performance link. Firth et al. (2007) reports that foreign owned firms in China have higher pay-performance sensitivity.

CONCLUSION

The salient findings can be summarized as follows. First, companies that claim that their reward system is related to performance, generally 'do what they say'. Second, companies with appropriately structured remuneration committee do reward their executives for creating shareholder value. Third, companies with managerial ownership below 35 percent appear to use performance-based pay, and the pay-performance incentive is stronger for the below 10 perc ent group than the 10 to 35 percent group. On the other hand, executives in companies with high managerial ownership (above 35 percent), tend to use their power in extracting more pay. It is important to emphasis that in the context of Malaysia the incentive mechanism (i.e. pay-for-performance) and monitoring mechanism, in particular the remuneration committee structure and ownership structure, work hand in hand in aligning the interests of shareholders and executives. Overall, as reflected by the significant coefficient for the entire sample, there is statistical evidence that change in executive pay in Malaysia is associated with performance. This is consistent with the recommendation of the Malaysian Code on Corporate Governance and the in line with international practices.

Due to unavailability of data related to the value of stock options granted to and exercised by executives, this study ignores share-based payment in measuring the executive remuneration. With the adoption of the new accounting standard FRS 2 in 2006, which requires companies to expense stock options, it is instructive to

ascertain whether the above findings are robust to the inclusion of stock options in the total remuneration package.

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Appendix 2: Remuneration Committee Attributes and Executive Pay Practices

1*	Does the company have a remuneration committee (RC)?
2	Is the remuneration committee members disclosed?
3*	Is the majority of RC independent?
4*	Are all members of the RC independent?
5*	Is the RC chaired by an independent non-executive director?
6*	Is disclosure made of individual members' attendance at the remuneration committee meetings?
7*	Does the company disclose the frequency of remuneration committee meeting in the annual report?
8	Did the RC meet more than 2 times in the year?
9	Did the RC meet more than 4 times in the year?
10	Was the attendance at the RC meetings more than 60 percent?
11	Was the attendance at the RC meetings more than 80 percent?
12	Was the attendance at the RC meetings 100 percent?
13	Is at least one remuneration committee member knowledgeable about executive compensation?
14*	Does the RC recommend to the board a framework of remuneration for the board and key executives?
15	Does the remuneration committee determine specific remuneration packages for executive directors and the CEO?
16	Are the remuneration committee's recommendations submitted for endorsement by the entire board?
17*	Does the RC's review include all aspects of remuneration (such as salaries, fees, allowances, bonuses and options?
18*	Is disclosure made of the RC's processes (e.g., external compensation specialists hired) to ascertain industry practices and salary levels for pay and employment conditions?
19*	Is executive director compensation linked to industry, company and/or individual performance?
20	Is the percentage of performance-related elements of executive directors' remuneration above 50 percent?
21	Is compensation of non-executive directors linked to their level of contribution and responsibilities, and time spent and effort?
22	Were industry experts consulted on the remuneration of non-executive directors?
23	Has the board recommended all components of non-executive director compensation for approval at the annual general meetings?
24	Do service contracts for directors contain onerous removal clauses?
25	Did the remuneration committee consider the appropriateness of compensation commitments for early termination of directors?
26*	Are directors prevented from deciding on their own remuneration?
27*	Does director remuneration include long-term incentives? (E.g., bonuses payable after 12 months and/or share option with a vesting period > 12 months)
28*	Is disclosure made to shareholders of remuneration of executive directors in bands of RM50,000?
29	Is disclosure made to shareholders of remuneration of non-executive directors?
30	Is disclosure made to shareholders of remuneration of top 5 executives who are not directors?
31*	Is disclosure made of components of remuneration analyzed by salaries, variable bonuses, options and long-term incentives?
32*	Is disclosure made of remuneration of each director by name?
33	Is disclosure made of remuneration to an employee who is an immediate family member of a director or the CEO, and whose own remuneration exceeds $150,000? If there are

	no such an employees is this disclosed?
34	If the company has any shares/options for employees/directors, are the details of these disclosed (shares issued to employees or options granted)? If it does not have such schemes, is this fact disclosed?

Note: For item 28, the quantum RM50,000 is adapted for item 28 to suit the local requirement. Only items marked * are included in this study to compute the remuneration committee structure score.

Appendix 1 : Disclosure and Non-disclosure of Performance-Related Pay in Annual Reports

Company	2005	2004	2003
A Company that makes a positive statement that it uses performance-related pay scheme for executive directors	The framework for the remuneration of the Executive and Non-Executive Directors are reviewed regularly against market practices. As an Executive Director, the Group CEO is paid a salary, allowances, bonuses and other customary benefits as appropriate as a senior management member. Salary reviews take into account market rates and the performance of the individual and the Group.	The Executive Directors' remuneration comprises a salary, allowances, bonuses and other customary benefits as appropriate. Salary reviews take into account market rates and the performance of the individual and the Group.	The Executive Directors' remuneration comprises a salary, allowances, bonuses and other customary benefits as appropriate. Salary reviews take into account market rates and the performance of the individual and the Group.
A Company that does not make a positive statement that it uses performance-related pay scheme for executive directors	The Company has adopted the objectives as recommended by the Malaysian Code on Corporate Governance to determine the remuneration of Directors so as to ensure that the Company attracts and retains the Directors needed to run the Company successfully.	The Company has adopted the objectives as recommended by the Malaysian Code on Corporate Governance to determine the remuneration of Directors so as to ensure that the Company attracts and retains the Directors needed to run the Company successfully.	The Company has adopted the objectives as recommended by the Malaysian Code of Corporate Governance to determine the remuneration of Directors so as to ensure that the Company attracts and retains the Directors needed to run the Company successfully.

THE IMPACT OF CORPORATE GOVERNANCE MECHANISM ON PERFORMANCE IN EMERGING MARKET
(EVIDENCE FROM TEHRAN STOCK EXCHANGE (TSE))

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Abstract

The presence of corporate governance can result in the improved economical performance of the firms and consequently a desirable economical growth in country. However Most of the researches regarding the relationship between corporate governance and the performance of the firms have been conducted in the industrial countries and the lack of this line of research in the emerging markets is completely observable. So we examine the relationship between corporate governance score and firm performance, and evaluate the relatively understudied governance practices in Iran. Also we construct a corporate governance score (CGS) in the firms listed on the Tehran stock exchange. Weak investor protection environment makes Iran a good setting to study how corporate governance practices affect firm value. Using a panel data of firms listed on the Tehran stock exchange from 2004 through 2007, we find that ownership and company-specific characteristics has a significant effect on corporate governance score and subsequent corporate performance. This study recommends that policy makers increase their awareness of the Importance of ownership structure to generate better corporate governance, since managers in weak investor protection environments could differentiate their firms adopting corporate policies to improve their governance structure, and also our measure of governance practices gives investors a quantitative tool to better assess Iranian firms

.*Introduction*

Both accountants and financial economists and financial management have devoted considerable attention to the impact of governance structures. The accounting literature documents that these factors have a substantial impact on earnings management, while the finance literature shows that they likewise affect financial performance. In this paper we examine how governance structure influences firm performance. Although most of the researches regarding the relationship between corporate governance and the performance of the firms have been conducted in the industrial countries and the lack of this line of research in the emerging markets is completely observable. Given the recent importance of corporate governance in academic research and policy, which recently republished the first edition of corporate governance in Iran. we ask a very straightforward question: Do companies in emerging markets that practice better corporate governance receives better performance? That is, do investors care, via valuations, if a firm practices better governance? We are far from being the first to examine this question. Indeed, there is a large literature that has examined this question. For example, Mitton (2004), Brow et al, (2006), Teen & Lei (2007), Cornett et al (2008) , Siregar & utama (2008), Premuroso & Bhattacharya(2007), Epps & Cereola (2007), Garay & González (2008), among others, have examined this question in various emerging markets. This literature has generally found that better governance is indeed linked with higher market valuations and better performance.

However, a review of the former studies shows that the findings do not match with each other, as Black et al. (2006) in their research stated that: " The used criteria in calculating the rating of corporate governance is an important issue to be kept in mind, different indexes of corporate governance can lead to different results". For researchers, different criteria of corporate governance can be another reason for the disparity of previous studies. So we know relatively little about the potential impact that the adoption of corporate governance practices may have on company value and performance in Iran. Measuring this effect are important for the firms because the successor failure of implementing good corporate governance practices may be greater if the market rewards those companies that adopt them. In the case of the US, the empirical evidence shows either no effect or an economically small effect. Black (2001) argues that perhaps these weak results in the US arise because the variation in firm governance is small. Given that the minimum quality of corporate governance, which is set by law and by norms, is very high in that country. On the other hand, inter firm governance variation is found to be much larger in Iran. Although in this research investigate only the effect norm and law on corporate governance .This should not comes a surprise, as a country with weaker laws and norms offers a wider range for governance differences between firms.

Consistent with past research, our paper is similar to Black (2001) and Garay & González (2008), who tested the relation between corporate governance and firm value in Russia and Venezuela as transition economies characterized by weak investor protection. Both papers have a small sample

and Russia, like Iran, is also a country that scores low in terms of investor protection and exhibits a high inter firm variation in corporate governance practices. The evidence reported in this paper is important not only for Iran but also for other emerging markets in the process of attempting to improve their corporate governance practices. The evidence we show here adds to the growing literature worldwide that indicates that firms can differentiate themselves by adopting better corporate governance practices and policies. That is, even in a weak investor protection environment, firms can increase their market value by adopting good corporate governance measures. In general we present the data and conduct our econometric analysis testing the relation between TQ, MB, ROA, and our Gove-Score., we find a positive and strong relation between our index of corporate governance and MTB, TQ and ROA for firms in Iran.

The rest of paper is organized as follows: first, have presented: The target of CG rating project, Potential Contributions of Study, background of Tehran Stock Exchange (TSE) and corporate governance in Iran. Second, we review Theoretical background and hypotheses development and in the last section we present the conclusion and policy recommendations, as well as its potential practical application for future studies.

Background of Tehran Stock Exchange & The target of CG rating project

The idea of having a well-organized stock market to speed up the process of industrialization of the country dates back to 1930's when Bank Melli Iran started a study about the subject. A report completed in 1936 worked out the details for the formation of a stock market and laid down the preliminary foundation to proceed with the plan. The outbreak of the World War II and subsequent economic and political events delayed the establishment of the stock exchange up to the year 1967 when the Stock Exchange Act was ratified. The Tehran Stock Exchange (TSE), opened in 1968 under the shah, all but died after Iran's Islamic revolution and the ensuing war with Iraq, re-emerging in fits and starts in the late 1980's. Though tiny compared with equity markets in New York, London or Tokyo, the Tehran exchange's market cap has increased from $17 billion in June 1999, when the current boom began, to $44 billion, with 400 listed companies, up from 220 a decade ago. The amount of money traded daily has quintupled in the last two years, to around $50 million in March, a rate comparable to that of the exchanges in other Middle East and North African countries, excluding Turkey. As many global equities markets have languished, the Tehran Stock Exchange has performed magnificently, topping world markets in the last few years and rewarding investors with 125 percent gains in the fiscal year ended March 21 and another 15 percent since. Managers of United States emerging market funds rarely even watch the exchange. Jonathan Asante, chief economist and manager of two emerging market funds worth $120 million for London-based Farmington Investment Management, the British partner of Maunder Capital Management in the United States, said markets in Iran and other oil-rich gulf countries were too pricey (Daragahi 2004).

As stated above, investing in TSE has increased in current year. In the course of, Over rials 15 billion (US$1.5 million) in foreign investment has been made in the Tehran Stock Exchange (TSE) during the first quarter of current Iranian year (starting on March 21, 2008), a bourse official said. The caretaker

of TSE noted some rials 388 billion in foreign investment had been made in the TSE during March 2007-March 2008.

The target of CG rating project are: 1) To produce useful results of aggregated data for the relevant authorities (e.g. the Tehran Stock Exchange) and create an aggregate score for the Iranian listed companies participating, thus demonstrating strengths and weaknesses to be taken into account for policy making. 2) To provide an independent and reliable tool for all investors who believe that a thorough examination of CG practices will lead to increased long-term shareholder value. The importance of the tool increases in a framework of a small open capital market that aims to attract sophisticated international investors. 3. Form a basis for comparison with future exercises and offer a tool that will allow correlation of the results with stock value and profitability to check the extent to which investors pay a premium for companies with high ratings.

Potential Contributions of Study

One of the main contributions of the project was the consensus that resulted from a very close collaboration between the TSE (which financed the study and had a vivid interest in practical results), an academic research centre (which could guarantee methodology and impartiality) and representatives of market participants (who provided thorough inputs and assured the practical value of the results). In order to achieve the highest possible consensus and obtain market-oriented outcomes, a Special Advisory Committee on Corporate Governance was convened consisting of members of all the relevant agents (the Tehran Stock Exchange, TSE Research and Development Center, Islamic Parliament Research Center) to advise the researchers on practical matters related to their work. Also, to provide a comprehensive and specific rating regarding all CG criteria for each company, enabling firms to use their individual results in order to measure themselves against several benchmarks. Furthermore The evidence reported in this paper is important not only for Iran but also for other emerging markets in the process of attempting to improve their corporate governance practices.

Corporate Governance in Iran

A characteristic of corporate governance in Iran approximates internal governance structures - systems where all the listed companies in country are owned and controlled by a few, major shareholders. These shareholders are often divided into different groups: the foundation group, the creditor banks (which are a small group), other companies or the government. The major shareholder's supervision depends on certain activities such as buying controlling stock and the role of institutional investors. Minor shareholders have no supervisory role. However, auditing the financial statements of companies on the stock exchange is mandatory. But, there is no rating institution in Iran or any system for proper supervision of internal control mechanisms. Despite recent concerns in the field about boards of directors' and other issues related to executive management, such as dividing the responsibilities between executives and managers, the role of nonexecutive managers are very weak in Iran and there is seemingly no concern about supervising organizational morality.(Mashayekhi & Mashayekh , 2008)

Fortunately, in late 2004, the TSE Research and Development Center published the first edition of the Code of Corporate Governance in Iran. The 22 clauses contain some necessary definitions, management, board, and shareholder responsibilities, financial disclosures, accountability, and auditing concepts. This code was edited in 2005 based on the ownership structure, the capital market situation, and the Trade Law. The second edition of Code of Corporate Governance in Iran has 5 chapters and 37 clauses. This code was announced via media and implemented by many companies.

Theoretical background and hypotheses development

Agency theory explains how to best address the problems of goal congruency and information asymmetry between the principals (shareholders) and agents (managers). Effective corporate governance structures help to prevent agency conflicts by acting as a monitoring device designed to align management's goals with those of the shareholder. The structure allows for compensation packages, which provide managers with an incentive to maximize the value of the firm. Hence, agency theory suggests better corporate performance established through measured corporate governance will lead to lower agency costs, higher stock prices and better long-term performance as managers are better supervised because a system of accountability, i.e. corporate governance, exists.

The agency model identifies number of governance mechanisms which realign the interests of agents and principals and so reduce agency costs (McKnight, Weir 2008). The movement from exclusive ownership to collective ownership introduced a novel subject in the area of financial management, which was termed by Berl & Mins (1932) as the Agency problem. Jensen & Mc Ling (1976) while illustrating the fundamentals of agency theory stated that the managers of a company as the "agent" and the shareholder's as the "principle". In the other words, the shareholder, who is the owner, of the company, delegate day-to-day decision making in the company to the directors, who are shareholder's agents? The problem that arises as a result of this system of corporate ownership is that the agents do not necessarily make decision in the best interest of the principle (Jill Solomon, 2007, 17). This issue has caused a conflict of interest and brings about the agency costs which are the cost of agency produced from the stockholders attempts to control the managers. These attempts include the plans and contracts made between the manager(s) and the stockholders. Corporate governance systems comprise the techniques used to protect the interests of those that provide the resources essential to the operations of a business entity.

A basic assumption is that managers are likely to place personal goals ahead of corporate goals resulting in a conflict of interests between stockholders and the management itself. In general, agency costs also arise whenever there is an "information asymmetry" between the corporation and outsiders because insiders (the corporation) know more about a company and its future prospects than outsiders (investors) do. (Steven M. Mints2005).

If the market mechanism and shareholder's ability to express them selves are not enough to monitor and control managerial behavior, some sort of regulation or formal guidance is needed. Indeed, if markets are perfectly

efficient and companies could compete in an efficient market for funds, artificial initiatives aimed at reforming corporate governance would be redundant. However, markets or not perfectly competitive and therefore intervention is necessary in other to improve corporate governance, help companies to raise finance and make companies more accountable to their shareholders and other stakeholders. Agency problems do exist between companies and their shareholders throughout the world, and governments are intervening by producing policy documents and codes of corporate governance best practice at and amazing rate (Jill Solomon, 2007: 20, 21). Hence, the asymmetrically of the information and the presence of benefit contrasts derived from Agency Theory, so implementation of corporate governance rules is unavoidable.

As stated above, In Iran the stock exchange organization (SEO), in the process of internationalizing the stock exchange and developing the privatization process, which is a requirement of the World Bank and the international monetary fund, attempted to generalize the corporate governance regulation in 2007, which has not been executed up to now, although some firms have applied it voluntarily. Therefore, with regarding the weakness of leg structures intransparency of financial reports and public ownership (the report of parliament's center of researches) are the problems of the most emerging markets. It seems necessary that the required researches be carried out in the universities first and after evaluating the circumstances, the required mechanisms are provided for corporate governance to apply. Then With regarding the theoretical bases and the necessity of conducting this research, In Iran's emerging stock exchange, the main research question is:
"Is there a positive relationship between the firm's performance and corporate governance score in the firms accepted in the exchange market?"

As stated above, this study proceeds in two parts. The first part deals with determinants of corporate governance. In the second part, we explore the determinants of firm value. In the first part, we regress SCORE on a vector of x variables with and without ownership variables. In the second part, we test for a correlation between SCORE and performance measures indicated either by Tobin's q or by Return on Assets (ROA) and MTB. We add the variables found in part one to be associated with higher governance rankings as controls to filter out their effects on firm performance. Following what we have done in part one, we run regressions including and excluding ownership variables in part two.

PART (I)

Based on the theoretical considerations and on the empirical research previously described, we have developed several hypotheses that relate ownership and company-specific characteristics to corporate governance practices in Iran.

The hypotheses and the independent variables

INST

Institutional investors today are far more involved in all areas of corporate decision making and have been encouraged to take on a more active role by the recommendations in corporate governance codes of practice and policy

documents. Institutional stockholders, which mostly possess a large share of the firms stock, have the necessary opportunities and capabilities to supervise the managers and in this way can influence the management decisions. In contrast to boards of directors, institutional investors have become increasingly willing to use their ownership rights to pressure managers to act in the best interest of the shareholders (Cornett et al. 2008). Based on agency theory, the management's fringe benefit is based on profit; the managers will be active in applying the regulations and rules and will try their best in the firms profit making. Institutional investors have two incentives for managing their portfolio of investments: 1) fiduciary responsibilities and 2) higher investment performance. To satisfy their fiduciary responsibilities, institutions develop a prudent/selective investment policy and continuously monitor performance (Arbel et al. 1983).

EDUM

Both agency and contingency theories lead us to think that the corporate governance structure of the company may be related to reporting practices, specifically to disclosure practices. So, board composition may be an interesting variable to consider because it will reflect the role of independent directors. More disclosure can be expected from companies with a higher proportion of independent directors. On the other hand, if the board has a high proportion of non-independent directors, less disclosure can be expected since they have access to inside information. As such, if the board includes representatives of shareholders, they do not have to rely extensively on public disclosure since they have access to internal information.   (Lopes & Rodrigues 2007)

INDE

Boards of directors are a crucial part of the corporate structure. They are the link between people who provide capital (the shareholders) and the people who use that capital to create value (the managers). Hence the board's primary role is to monitor management on behalf the shareholders. Managers, especially top management, must look after the health of the corporation, and this involves balancing the multiple claims of conflicting stakeholders. Owner want higher financial returns, while costumers want more money spent on research and development. Employees want higher wages and better benefits (Allhoff & Vaydya 2005:259). As stated, Board structure is an important corporate governance mechanism. The existing studies have suggested that board characteristic like size, power concentration, the existence of domination individual, the presence of audit committees with certain features, the proportion of non-executive and independent members have an influence on accounting information quality (Goodwin & Seow(2002) Farinha & Viana(2004) Pucheta & Fuentes(2007)).

BLOCK

Kenneth et al. (1995) note the substitution effects between outside directors, block holders, and incentives to insiders using eighty one U.S. bank-holding companies in his study. Both Dedman and Elisabeth (2002) and Young (2000) investigate the board structure determinants before and after Cadbury Report. They either find managerial entrenchment is reduced or non executive directors

are increased following the imposition of new standards of "best practice" regarding board structure. Lei& Teen (2004), show that insider shareholdings and block holdings are negative and significant, whereas institutional shareholdings are positive and significant with corporate governance practice.

As stated above, we examine the four mechanisms used in controlling agency problems: non-executives managers, block holdings, institutional shareholdings and disclosure. In addition, we also include a comprehensive measure of governance using a corporate governance scorecard and measuring governance over a longer time period.

FSIZE

There are several arguments that can be used to link size to disclosure as a corporate governance mechanism. As Watts and Zimmerman (1990) argue, political costs are higher in larger companies, and so larger companies are more likely to show higher levels of disclosure since it improves confidence and reduces political costs. Also, larger companies are supposed to have superior information systems, so additional disclosure is supposedly less costly in larger companies than in smaller ones. Moreover, proprietary costs related to competitive disadvantages of additional disclosure (Verrecchia, 1983) are smaller as company size increases (Lopes & Rodriguez 2007). Certainly the firm size determines the amount and range of firms' activities. Larger firms, because of their more contacts with the shareholders and the existence of more control mechanisms have a less amount of commercial risk, so we expect that large firms have a higher corporate governance score. To calculate the firm's size criteria is the same as the mean of sum of assets, the firm's stock exchange value and amount of sale. We use sale's figures as proxy for size because regarding the high rate of inflation in Iran, the sale figures present more relevant information.

The hypotheses and the dependent variables

Corporate Governance Score (CGS): Most studies on firm-level evidence on corporate governance practices gather their information using questionnaires filled by the companies themselves. This methodology presents various potential problems, among others: a low response rate, especially from those companies whose corporate governance practices are poor (self-selection bias); and, for the firms that do respond to the questionnaire, there is a tendency to present themselves not as they are at the moment when the questionnaire is being completed, but as they want to see themselves in the future (self-report bias). In our paper we follow a different route to construct our CGS. In the same spirit of Garay & González (2008), we answer the questions ourselves using publicly available information. The Corporate Governance Score (CGS) was constructed based on 21 questions pertaining to different corporate governance practices. We answered these questions for each of the 125 Iranian firms that were listed in the TSE. The answer to each question is either "Yes" or "No." If the answer is "Yes," we add 1 and if the answer is "No," we add 0. All answers are based on publicly available information. These 21 Questions were answered after reviewing each firm's financial statements, bylaws, minutes of the boards of directors and shareholders' meetings, and annual reports available at WWW.rdis.com.

To summarize, in part one, the model is specified as:

$$SCORE_{it} = \alpha_i + \beta_1\,INST_{it} + \beta_2\,INDE_{it} + \beta_3\,EDUM_{it} + \beta_4\,BLOCK_{it} + \mu_{it} \qquad (1)$$

$$SCORE_{it} = \alpha_i + \beta_5\,FSIZE_{it} + \beta_6\left(\frac{K}{S}\right)_{it} + \beta_7\left(\frac{Y}{S}\right)_{it} + \mu_{it} \qquad (2)$$

$$SCORE_{it} = \alpha_i + \beta_5\,FSIZE_{it} + \beta_6\left(\frac{K}{S}\right)_{it} + \beta_7\left(\frac{Y}{S}\right)_{it} + \beta_1\,INST_{it}$$
$$+\beta_8\,DDUM_{it} + \beta_2\,INDE_{it} + \beta_4\,BLOCK_{it} + \mu_{it} \qquad (3)$$

Where:
SCORE: The corporate government score
INDE: The percentage of outsider managers
INST: The percentage of institutional stockholders
FSIZE: Natural Logarithm Sale:
K/S: The ration of property, plant and equipment to sale
Y/S: The ratio of operational profit (loss) to sale
BLOCK: the percentage of block stockholders
INST: The percentage of Institutional stockholders
INDE: The percentage of the outsider managers
EDUM: Is a dummy variable meaning that if there is no related- parties transition it equals to one and zero otherwise.
DDUM: Is a dummy variable meaning that if the numbers of outsider managers are more than the insider managers it equals to one and zero otherwise.

Control Variables

We use the following three variables as controls: company size (FSIZE), measured as the natural logarithm of the sale, The ration of property, plant and equipment to sale (K/S) and The ratio of operational profit (loss) to sale(Y/S). Information regarding each one of these variables was obtained from the financial statement.

Hypotheses Part (I):
A: corporate governance practice has relationship with **ownership characteristics** in companies listed on the Tehran stock exchange.
  Sub Hypotheses:
- Corporate governance practice has positive relationship with institutional stockholders.
- Corporate governance practice has positive relationship with Non-executive managers.
- Corporate governance practice has negative relationship with related party transactions.

- Corporate governance practice has positive relationship with block holders.

B: corporate governance practice has relationship with **company-specific characteristics** in companies listed on the Tehran stock exchange. (size of firm)

PART (II)

Empirical research on corporate governance use either market-based measures or accounting-based measures to assess firm performance. Epps& Cereola (2007) use ROA as an operating performance indicator. Lei & Teen (2004), Brown & Caylor (2004), Brown & Caylor (2006), Garay & Gonzales (2008), use Tobin's q as an operating performance indicator.

According to the Agency Theory which states that good corporate governance leads to a decrease in the expected return rate and consequently leads to a more proper evaluation of the stock price in long run. The firm's performance arises from executing the rules and methods created by the board. The separation of executive duties and monitoring duties in economic entities and implementing the same procedure in the board structure is truly one of the main achievements of scientific view to the issue of corporate governance. Today the presence of dependent and outsider members along with insider members in the board is exactly in the direction of this critical principle, namely, the separation of supervision from execution. The presence of responsible but outsider individuals in the board arranges the affairs in a way that the main responsibility of these persons becomes the supervision of the insider directors, and in this direction the necessary monitoring tools like the reward committee and accounting committee have been forecasted to apply monitor duties.

Also firms with an independent board and higher ROE, have more marginal net profit and stock profit (Brown & killer 2004). Therefore, it is expected that the firm performance has a significant relationship with corporate governance score which has been explained based on the different management and governance criteria according to what has been mentioned in the introduction part of article, some dummy variables have been used for this purpose to be achieved. After discovering the relationship between the factors affecting corporate governance, we attempted to test the main hypothesis, namely: " There is a positive relationship between the firm performance and the corporate governance score in the firms' accepted in the exchange market "

We use three alternative dependent variables to test our hypothesis. First, we use the Tobin's q; this variable was computed as the market value of the firm's assets ([(No. of common shares ×Price of shares at calendar year end) + Book value of Preferred Capital + Book value of total liabilities]/ Book value of total assets) divided by the book value of assets. Tobin's q can be considered the classic valuation measure and has been used extensively in the corporate governance literature. Tobin's q reflects growth opportunities (and, more generally, expectations of the firm's prospects in future years) through the impact of these factors on market value.

The second dependent variable is the price-to-book ratio (price-to-book value or PBV), measured as the quotient between per share market price and book value. The price to book is a valuation measure that has been used in corporate governance studies by authors such as Garay & González (2008) for Venezuela. Finally, we use the ROA as the third of our dependent variables, Return on assets is a measure of operating performance, which shows an investor what earnings a firm has generated from its invested capital assets. ROA in the current study is defined as income before extraordinary items for the fiscal period divided by total assets for that same period. Managers are directly responsible for the operations of the business and therefore the utilization of the firms' assets. Thus, ROA allows users to assess how well a firms' corporate governance system is in securing and motivating efficient management of the firm (Epps& Cereola (2007)) [173].

As stated above, the following models are for part two analysis.

$$Q_{it} = \alpha_i + \beta_9\,SCORE_{it} + \beta_5 FSIZE_{it} + \beta_6\left(\frac{K}{S}\right)_{it} + \beta_7\left(\frac{Y}{S}\right)_{it} + \beta_8\,DDUM_{it}$$

$$+\beta_1 INST_{it} + \beta_2 INDE_{it} + \beta_3 EDUM_{it} + \mu_{it} \qquad (4)$$

Since the percentage of the block stockholders affects corporate governance score and finally performance, we imported the block stockholders as control variable in the final model.

$$Q_{it} = \alpha_i + \beta_9\,SCORE_{it} + \beta_5 FSIZE_{it} + \beta_6\left(\frac{K}{S}\right)_{it} + \beta_7\left(\frac{Y}{S}\right)_{it} + \beta_8\,DDUM_{it}$$

$$+\beta_1 INST_{it} + \beta_2 INDE_{it} + \beta_3 EDUM_{it} + \beta_4 BLOCK_{it} + \mu_{it} \qquad (5)$$

Where:

Q: [(No. of common shares ×Price of shares at calendar year end) + Book value of Preferred Capital + Book value of total liabilities]/ Book value of total assets. Other variables are the same as previously defined.

$$Q_t = \left(\frac{PS + CS + DEBT}{TA}\right)$$

Whether or not on the relevant literatures and theories of corporate governance and corporate value, the paper proposes a theoretical framework shown in figure 1. Under the conceptual framework this study will verify the following hypotheses:
Main Hypothesis:
Better corporate governance practices will be positively related to firm valuation in Iran.

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[173] Information regarding each one of these variables was obtained from the TSE Website & www.rids.com and corresponds to year-end values.

ECONOMETRIC ANALYSIS

In order to perform the statistical tests and the multivariate regressions, a preliminary analysis of the information available was carried out following a procedure similar to that used by Garay & González (2008); companies without any market transaction during the year were deleted from the sample. In Table 1 we report the descriptive statistics for the variables used in the analysis that follows. In our sample has a price-to-book multiple equal to 2.61 and a Tobin's q equal to 2.77. Also average ROA as a performance measurement was 0.91 show that, is in proportion to low score. In terms of our CGS, the reduced sample of 125 firms shows an average value equal to 12.77 over a maximum of 21 points (one point for each question answered as "yes"), or 59 percent in percentage terms. Low level for companies listed on the Tehran stock exchange, this is consistent with the fact that owner structure is governmental also information disclosure and other legal requirements are weak.

Insert Table 1

In Table 2 we report a pair-wise correlation matrix for the variables used in this study. It shows that the CGS is positively correlated to the three alternative dependent variables previously defined (MB, ROA and TQ). With respect to the firm's size (FSIZE), unlike the findings obtained by Garay & González (2008), we obtain a negative and significant coefficient for our sample. In other words, larger firms tend to exhibit better corporate governance practices. But, owner structure in big company is governmental in Iran, as weak corporate governance practice is normal.

Insert Table 2

Result of first part's models

As shown in Table 3, To test first hypothesis, we estimate regression (1) setting Score$_{it}$ equals to corporate governance score in period t. the results of regression indicate that There is a significant positive relationship between the percentage of institutional stockholders and the corporate governance score. The coefficient on INST is positive (0.03) and significant at the 1% level (t = 2.77). Recursive partitioning analysis yields somewhat stronger explanatory power (R^2 = 38 percent). Durbin-Watson test also shows lack of autocorrelation (the 5th row of result in Table3).then we inter INDE as a control variable because, outsider managers can affect corporate governance mechanism, but we have not found significant relationship between it with SCORE (see Table 3). Therefore the percentage of institutional stockholders as a factor with positive effect, affects on corporate governance score. Also there is a significant negative relationship between the percentage of block holders (BLOCK) and the corporate governance score. The coefficient on BLOCK is negative (-0.03) and significant at the 1% level (t = -3.56). In other words, block holders have not given view for firm directing.

Next, we replace ownership with firm characteristics as explanatory variables. Hence we estimate regression (2) setting Score$_{it}$ equals to corporate governance score in period t. the results of regression indicate that There is a significant negative relationship between the firm's size and the corporate

governance score. The coefficient on FSIZE is negative (0.62) and significant at the 1% level (t = -3.63). Recursive partitioning analysis yields somewhat stronger explanatory power (R^2 = 38 percent).Durbin-Watson test also show lack of autocorrelation (see the last row of result in Table3).

Finally, our model specifications in the four columns of Table 3 include ownership in combination with firm characteristics (the combined model). As shown in Table 3, the results reemphasize the negative relationship between the firm size and the corporate governance score. The control variables, the percentage of institutional stockholders have a positive significant relationship with corporate governance score. However, the control variables, the ratio of operational profit or loss to sale, the percentage of outsider managers and the dummy variable DDUM did not have a significant relationship with corporate governance. Durbin-Watson test also approves the significance of this model. Hence, corporate governance practice has relationship with **ownership and company-specific characteristics** in companies listed on the Tehran stock exchange.

Insert Table 3

Result of second part's models (Firm performance)

Tables 4 present regression results of firm operating & economic performance as a function of corporate governance variables. In Table 4, we treat reported performance, Tobin's q, MB, ROA, as the dependent variables. We also include firm size (log of sale) as a control variable for operating performance in these regressions.

Tobin's q

The results of regression (4) indicate that there is a significant positive relationship between the corporate governance score and performance. The coefficient on SCORE is positive (1.12) and significant at the 1% level (t = 3.48). Recursive partitioning analysis yields somewhat stronger explanatory power (R^2 = 45 percent). Durbin-Watson test also shows lack of autocorrelation (the last row of result in Table4). Model 5 includes all the control variables considered together (t = 3.40, p < .01).

MB

The results of regression (4) indicate that there is a significant positive relationship between the corporate governance score and performance. The coefficient on SCORE is positive (1.12) and significant at the 1% level (t = 6.16). Recursive partitioning analysis yields somewhat stronger explanatory power (R^2 = 52 percent). Durbin-Watson test also shows lack of autocorrelation (the last row of result in Table4). Model 5 includes all the control variables considered together (t = 6.10, p < .01).

ROA

The results of regression (4) indicate that there is a significant positive relationship between the corporate governance score and performance. The coefficient on SCORE is positive (0.02) and significant at the 5% level (t = 1.87). Recursive partitioning analysis yields somewhat stronger explanatory power (R^2 = 66 percent). Durbin-Watson test also shows lack of autocorrelation (the last row of result in Table4). Model 5 includes all the control variables considered together (t = 2.00, p < .05).

Insert Table 4

Overall, we find a positive and significant relation between firm valuation (MB, Tobin's q and ROA) and our CGS. Firms with a better CGI are more valuable for investors in terms of their MB multiple and their Tobin's q. Results also suggest that in a weak investor protection environment such as Iran, firms are able to send strong signals to the market by voluntarily improving their corporate governance practices, something that allows them to differentiate from the rest.

Discussion and Conclusion

The results of hypothesis testing, using the information from 125 accepted firms in the firms listed on the Tehran stock exchange, during 2004-2006 shows that there is a relationship between a firm performance and the corporate governance score (See Figure 1).

The result of first group hypothesis testing showed that there is a significant positive relationship between the institutional stockholders (like banks, insurance companies, and Islamic Revolution Institutional etc.) and the corporate governance score. But the variables of institutional stockholders are able to explain a good percentage of the change in corporate governance score, and it is due to this high effect that institutional stockholders can exert in implementing their desired managerial policies. The findings of the current research were complied with Lee & Teans findings (Lee & Tean, 2007) who found out that there is a positive relationship between the institutional stockholders and the corporate governance score. And in contrast to Cornett et al's findings (cornet et.al, 2008) we believe that institutional stockholders require more information disclosure and more transparency. Also our findings shoe that, there is a significant negative relationship between the block holders and the corporate governance score. Perhaps, one of the reasons of this significant negative relationship is the governmental nature of block holders and minority of other stockholder in ownership structure; it's led to less accountability which is a bench market for the governmental managers.

Our Finding affirms the presence of a negative relationship between the firm size and the corporate governance score, too. In other words, larger firms tend to exhibit better corporate governance practices. But, owner structure in big company is governmental in Iran, as weak corporate governance practice is normal. Although the findings are in contrast to Clopper & Low (2004) and Aggraval et al. (2006). However, Lee (2007) concluded that there is a nonlinear relationship between the firm size and the corporate governance score. Other findings show the presence of a positive relationship between corporate governance score and the firm's performance. By entrance of the variables related to the characteristics of the owners, the model's predicting power decreased, due to the fact that the institutional stockholders and block stockholders intervention prevent the firm's favorable performance. The findings were complied with Mc Cannel & Servas (1990), Lee & Tean (2007), Black (2001), and Brown & killer (2004). Also the findings are in contrast to Theodoral (1998) and Epps & Creola (2007).

Generally, the results of this study are in compliance with Mashayekhi & Mashayekh(2008) findings, who state that, " role of non-executive managers is very weak in Iran and there is seemingly no concern about supervising organizational morality " (Mashayekhi & Mashayekh, 2008). The institutional

stockholders have not been able to use their power utility and facilities to improve the governance indexes. Nevertheless, the exchange market's requirements to establish the regulations which firms have to perform corporate governance mechanism cause to decrease the monitoring problem of company. Because of the inaccessibility of the firm's reports after announcing the corporate governance regulations in 2007, it was not possible to investigate the effects of its execution. Although, the findings showed that we can rely on the corporate governance score and declare it as one of the important factors of the stock exchange in the future of Iran's exchange market. As the findings showed, the information about corporate governance score can be, considered the *" relevant information"*, thus it suggests Iranian markets & other emerging markets that: Some pieces of information relating to the corporate governance score are provided by SEO or any other related accounting organization which is offered through management notes and reports to the market & investors. Also, we think these findings are able to help the investors for determination of their portfolio regarding corporate governance score and the selection of a strategy based on corporate governance score in choosing portfolio. Finally, keep in mind that, the 125-sample firms of the present study were chosen according to the access to data. Hence scientific caution must be exercised in generalizing its findings to other firms. One of the main obstacles in this study was the lack of organizations which would provide corporate governance rating of Iranian company. We hope that with the economic growth and the development of stock exchange in Iran, we will have such organization for the future researches, though in a limited scale. In this orientation we sure expect the contribution of international organizations such as IOSCO and OECD which are highly essential. Also there was no access to the information about R&D in Iranian firms, and, since this variable affects the SCORE, we were not able to determine its effect on the models. Therefore, its intervention may have had some impact on the results.

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Descriptive Statistics (Table 1)

Obs	Cross	Skewness	Std	Minimum	Maximum	Median	Mean	Variable
500	125	6.75	11.24	-79.32	147.53	1.25	2.77	**Q**
500	125	1.5	9.38	-59.17	89.53	1.46	2.61	**MB**
500	125	1.32	0.45	-0.34	3.35	0.86	0.91	**ROA**
500	125	-0.15	1.59	8	17	13	12.77	**SCORE**
500	125	0.05	1.47	5.54	17.77	12.13	12.17	**FSIZE**
500	125	-0.18	31.2	1.00	98.00	56.50	51.09	**BLOCK**
500	125	-0.26	32.08	1.00	100.00	65.50	55.21	**INST**
500	125	0.05	24.65	20	90.00	50	52.48	**INDE**

PART (I) (Table 3)

MODEL(3)	MODEL(2)	MODEL(1)	Variable
-0.61** (-03.54)	-0.62** (-03.63)	-	FSIZE
-0.12 (-1.59)	-0.14† (-1.89)	-	(K/S)
0.00 (0.08)	-0.003* (-2.231)	-	(Y/S)
0.02** (2.38)	-	0.03** (2.77)	INST
-0.03 (-0.86)	-	-0.03 (-0.93)	INDE
0.34 (1.59)	-	0.30 (1.46)	EDUM
-0.03** (-3.42)	-	-0.03** (-3.56)	BLOCK
4×125	4×125	4×125	Obs
39%	38%	38%	R^2(overall)
19%	18%	17%	Adj. R^2
60**	116**	76.15**	F
2.14	2.12	2.09	Durbin- W

†Correlation is significant at the 0.10 level (two-tailed), * Correlation is significant at the 0.05 level (two-tailed) and **Correlation is significant at the 0.01 level (two-tailed). The t- statistics are reported in parentheses bellow coefficient estimates.

ROA		MB		Tobin's q		
MODEL(5)	MODEL(4)	MODEL(5)	MODEL(4)	MODEL(5)	MODEL(4)	**Variable**
0.02*	0.02*	1.57**	1.59**	1.13**	1.12**	SCORE
(2.00)	(1.87)	(6.10)	(6.16)	(3.40)	(3.48)	
0.02	0.02	0.33	0.30	2.82*	2.82*	FSIZE
(0.65)	(0.47)	(0.31)	(0.29)	(2.20)	(2.21)	
-0.01	-0.01	0.02	0.01	0.23	0.23	(K/S)
(0.12)	(-1.44)	(0.13)	(0.07)	(0.88)	(0.89)	
-0.007	-.003	0.01†	0.005	0.008	0.009	(Y/S)
(0.16)	(-0.48)	(1.65)	(1.38)	(0.92)	(1.20)	
-0.007	0.002	0.11†	0.06	0.01	0.02	INST
(0.73)	(1.17)	(1.70)	(1.39)	(0.20)	(0.34)	
0.005	0.005	0.03	0.02	0.11**	0.11**	INDE
(0.78)	(0.41)	(0.39)	(0.36)	(3.09)	(3.08)	
-0.02	-0.02	-0.22	-0.17	-0.21	-0.93	EDUM
(-0.65)	(-0.74)	(-0.25)	(-0.19)	(-0.08)	(-0.08)	
0.03†	-	-0.05	-	0.006	-	BLOCK
(1.66)		(-1.01)		(0.14)		
500	500	500	500	500	500	Obs
67%	66%	52%	52%	45%	45%	R^2(overall)
55%	55%	34%	35%	25%	25%	Adj. R^2
106	124.15	50.13	57.02	42.95	42.96	F
1.83	1.82	1.51	1.51	2.49	2.49	Durbin- W

PART (II) (Table4)

Figure 1

GOVE- SCORE

Figure2. Average CGS 125 Firms

Figuer 3. Framework Conceptual Corporate Governance Theories

Agent

Principle

Agency Theory

	Management	
Owner	**The Corporation**	Local Community
Suppliers		Customers
	Employees	

Stakeholders Theory

Top management, must look after the health of the corporation, and this involves balancing the multiple claims of conflicting stakeholders by good corporate governance practice.

INVESTIGATING THE JOINT EFFECTS OF STRATEGY, ENVIRONMENT AND CONTROL STRUCTURE

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Abstract

The purpose of this study is to investigate the effects of misfit between competitive environment, business strategy and control structure on performance. We argue that the misfit between competitive environment, business strategy and control structure has significant negative implications on shareholder value creation associated with firms' Joint Venture formation. Based on data of publicly-traded US manufacturing firms that announce a joint venture formation, we found that firms that have perfect fit are valued higher than those with both strategy and structural misfits and also those with structural misfit. Contradictory result was found when comparing firms with perfect fit with those that have strategy misfit. Further analyses indicate that all those strategy misfit firms operate in high entry barriers, where firms can compete effectively using either innovation or cost efficiency strategy due to the fact that they possess resources that are difficult to be imitated by their competitors.

Keywords: Business strategy; Environment; Control; Contingency theory.

The formation of domestic as well as international joint ventures (IJVs) is typically based on the premise that the new ventures will create shareholder value for participating firms. Yet, empirical studies investigating the capital market implications of joint venture formation have reported mixed and often contradictory results. Indeed, recent surveys have documented just how pervasive and severe these inconsistencies are (Robson, Leonidou & Katsikeas, 2002). Not only have studies failed to establish whether joint venture formation creates shareholder value for parents, there is little consistency across studies regarding the impact of individual variables on such value creation (Merchant, 2000).

One reason for the mixed results seems to be the approach adopted in previous research which, usually, has investigated the singular effect of strategic and macro-economic variables on parents' shareholder value. Indeed, prior joint venture studies have seldom explicitly recognized the contingent nature of relationships among parents' competitive environment, JV strategy, JV control structure, and shareholder value (e.g., Merchant, 2000; Sim & Ali, 1998). This neglect is surprising because scholars in strategic management (e.g., Miller, 1987) as well as other fields such as accounting (e.g., Bruns and Waterhouse, 1975) have argued for the need to consider these elements simultaneously. Moreover, researchers have frequently reported that fit among firms' environment, strategy and structure has a positive effect on firm performance (e.g., Chenhall & Langfield-Smith, 1988; Gupta & Govindrajan, 1984; Jermias & Gani, 2004; Miller, 1987; Miller & Freisen, 1982; Robinson and McDougall, 2001; Rumelt, 1974). In fact, a recent study suggested that fit among internal and external variables affected shareholder value creation via JVs (Merchant, 2004).

This study advances the JV literature by engaging a contingency perspective to better understand the shareholder valuation effects associated with firms' JV formation. Drawing upon insights offered in the strategy and accounting literatures, this study argues that creation of shareholder value associated with JV formation depends on the (initial) fit among environment, strategy, and control structure. Moreover, the study deconstructs the notion of organizational fit (misfit) in terms of: i) strategy fit (misfit) and ii) control structure fit (misfit). It investigates the individual as well as joint effects of strategy-structure fit (misfit) on parents' shareholder value. Specifically, the study predicts that capital markets will evaluate strategy and/or structure misfits less favorably relative to the case where both these elements agree with the demands of JVs' competitive environment.

Examining the performance impact of strategy-structure misfits in the context of international JVs is important because as many as 80% of these ventures fail to achieve their intended objectives (Kanter, 1989) and sparse explanations of such failures in the literature (Robson, et al., 2002). Indeed, as Burton, Lauridsen & Obel

(2002) argue, it is empirically and managerially important to investigate the impact of organizational misfits because managers react to them due to their performance implications. Thus, this study asks the following research question: Given parents' competitive environment, how do capital markets evaluate JV strategy and/or JV control structure misfits vis-à-vis "perfect fit" when international JVs are first publicly announced?

The remainder of the paper is organized as follows. Section 2 briefly summarizes the JV literature pertaining to influences on shareholder value creation via JVs. Section 3 generates the study's hypotheses whereas section 4 describes its methodology. Section 5 reports the study's findings. The final section discusses these findings and highlights key implications for future research.

LITERATURE REVIEW

Given the popularity of JVs, numerous studies have investigated the relationship between JV formation and shareholder value creation (e.g., Gulati, 1998). Although these studies have identified a wide array of influences on parents' capital market performance, most of these influences can be conveniently grouped into three categories of variables: i) environmental variables, ii) strategic variables, and iii) structural variables. In the first group belong macro variables such as cultural distance between parents' home countries, level of political risk in the JV host country, and industry conditions in parents' core business (e.g., Lummer & McConnell, 1990; Madhavan & Prescott, 1995; Park & Ungson, 1997). In the second group belong indicators of parents' JV strategies; they include variables such as parent-venture business relatedness, type(s) of functional activity to be undertaken via JVs, and parents' JV motivations (e.g., Bleeke & Ernst, 1991; Das, Sen & Sengupta, 1998; Koh & Venkatraman, 1991). Finally, the third group consists of structural variables such as

equity distribution between partners and JV decision-making structure (e.g., Harrigan, 1988; Lummer & McConnell, 1990; Saxton, 1997).

HYPOTHESIS DEVELOPMENT

As noted earlier, previous research into the relationship between above-mentioned variables and parents' shareholder value has often reported contradictory results. Recent JV studies have suggested the lack of contingency perspective as a potential reason for these conflicting findings (Merchant, 2000; Sim & Ali, 1998). More positively, it would be useful to move towards a study of interactions among theoretically inter-connected variables (e.g., Ginsberg and Venkatraman, 1985).

Harvey (1982) argues a contingency approach to strategy research is based on the premise that an optimal strategy exists for a given set of environmental and firm-specific conditions. Likewise, Sandberg (1986) suggests that to create economic wealth for themselves, firms must align their strategies and structural variables to achieve a fit with their competitive environment. Thus, a model for testing contingent relationships among environment, strategy and structure assumes that a fit across these variables will generate better performance than will a misfit (Doty, Glick & Huber, 1993). Conversely, misfit across these variables will lower firm performance relative to the scenario where these elements are aligned.

[Insert Figure 1 here]

Figure 1 shows the contingent relationship between environment, strategy and control structure. Cells 4 and 5 indicate the perfect fit among these three variables. Firms in Cell 4 are those operate in an environment characterized by low entry barriers, choose a strategy of efficiency, and adopt a dominant control structure. Firms in Cell 5 are those operate in an environment characterized by high entry barriers, choose a strategy of innovation, and adopt a shared control structure. Cells 2 and 7 indicate the strategy misfit. Firms in cell 2 are those operate in an environment characterized by low

entry barriers, choose a strategy of innovation, and adopt a dominant control structure. Firms in cell 7 are those operate in an environment characterized by high entry barriers, choose a strategy of cost efficiency, and adopt a shared control structure. Cells 3 and 6 indicate the structural misfit. Firms in Cell 3 are those operate in an environment characterized by low entry barriers, choose a strategy of efficiency, and adopt a shared control structure. Firms in Cell 6 are those operate in an environment characterized by high entry barriers, choose a strategy of innovation, and adopt a dominant control structure. Cells 1 and 8 indicate both strategy and structural misfits. Firms in cell 1 are those operate in an environment characterized by low entry barriers, choose a strategy of innovation, and adopt a shared control structure. Firms in cell 8 are those operate in an environment characterized by low entry barriers, choose a strategy of cost efficiency, and adopt a dominant control structure.

We predict that strategy *and* structural misfits, structural misfit alone, and strategy misfit alone, are associated with shareholder value destruction. Foster (1986) proposes that contextual variables such as competitive environment and strategic orientation of the firms should be taken into consideration when investigating the relationship between types of control and firm performance. Other researchers (e.g., Manu, 1992; Douglas and Rhee, 1989) speculate that an important issue in examining the relationship between structural/strategic variables and performance is the extent to which differences in environmental conditions influence the strategic orientation and types of control structure for optimum performance.

We adopt the environment-strategy-structure paradigm proposed by Lenz, (1981) to investigate the joint effects of environment, strategy, and control structure on shareholder value at the announcement of IJV formation. This approach suggests that business environment serves as important factors in the strategy formulation (Hambrick, 1982; Bourgeois, 1985; Anderson and Paine, 1975) and control structures are adopted

to suit the firm's chosen strategy (Rumelt, 1974; Channon, 1973; Chandler, 1962). A fit among environment, strategy and control structure will positively affect performance. This approach is based on the premise that there is no one best way to organize, and that any one way of organizing is not equally effective under all conditions (Galbraith, 1973). Rather, this approach suggests that a firm should select a strategy that matches the environment in which the firm operates and the chosen strategy should be aligned with a proper control structure to positively affect performance.

Strategy Misfit (cell 2 and 7)

The strategy misfit deals with environment and strategy relationship. The premise is that competitive environment (i.e., entry barriers) influences a firm's strategic choice. When a firm enters into joint ventures with few resources whose deployment outcomes competitors cannot duplicate (i.e., low entry barriers), current or potential competing firms can implement the same strategy but using different resources to erode the firm's sustainable competitive advantage (Dierickx and Cool, 1989; Reed and DeFillippi, 1990). Such erosion fundamentally stems from reduction in the level of causal ambiguity (Lippman and Rumelt, 1982) surrounding the socially complex architecture of resources deployed (Dierickx and Cool, 1989) by the firm. Reed and DeFillipi, (1990) argue that the reduction of ambiguity allows the competitors to observe and understand the source of competitive advantage and permit them to target their actions with the result that the erosion in the firm's sustainable competitive environment will occur at a greater rate. In such an environment, firms should plan their activity reasonably well, meet the competition, and realize efficiency (Burton, et al., 2002). High performing firms in an environment characterized by low entry barriers are those who adopt a strategy of cost efficiency by focusing on aggressive construction of efficient scale facilities, vigorous pursuit of cost reduction from experience, tight cost and overhead control, avoidance of marginal customer accounts, and cost minimization

in areas like research and development, service, sales force, and advertising (Porter, 1985). A cost efficiency firm tries to keep its product offerings stable over time and focus on narrow product lines in order to minimize inventory carrying costs as well as to benefit from scale economies (Gupta, 1987). Although these practices reduce the firms' ability to innovate and to respond to changes in competitive environment, they increase efficiency. Therefore, a cost efficiency strategy is a fit with low entry barrier environment but a misfit with high entry barrier environment.

In contrast, a firm who enters into joint ventures under high entry barriers signals a more profitable resource deployment as compared to those of incumbent and potential competitors (Bleeke and Erns, 1991; Heil and Robertson, 1991; Rotem and Amit, 1996). The lack of that firm's sensitivity to its rivals' actions indicates that such firm has resources whose competitive advantage can only be minimally eroded by competitors (Richardson, 1959), at least in the short-term. This would be the case when the firm possesses resources that are valuable, rare, non-imitable, non-substitutable, and non-tradable (Barney, 1991; Dierickx and Cool, 1989). In such an environment, firms tend to have enough resources to invest in research and development activities to increase their competitive advantage in terms of unique resources/products. High performing firms in high entry barrier environment tend to select one or more attributes that many customers in an industry perceive as important and uniquely positions themselves to meet those needs (Porter, 1985). To support their strategy of producing innovative and unique products, it is essential that firms invest in research and development activities to produce new and innovative products that are superior to others in the market (Mia and Clarke, 1999). Firms will then be rewarded by their ability to command premium prices and generate long term profitability (Calantone et al., 1995). In addition, innovative products can also create barriers to entry of rivals, attract new customers, and change the rules of competition in the industry (Golder and

Tellis, 1993). Innovative firms tend to be characterized by higher costs from innovation and are not focused on efficiency. Their ability to project into the environment with new ideas and products will sustain their competitive advantage in terms of difficult-to-imitate resources and outcomes. Therefore, a strategy of innovation is a fit with an environment characterized by high entry barriers but a misfit with an environment characterized by low entry barriers.

The relationship between environment and strategy has been well studied (Miles and Snow, 1978; Porter, 1985; Miller, 1987; Venkatraman and Prescott, 1990) and empirical findings tend to support the environment-strategy linkage (Zahra, 1996; Adler, 1989; Miller, 1987; Bourgeois, 1985). Based on a survey of established manufacturing companies in southeastern states, Zahra (1996), for example, found that firms operate in high entry barriers tend to choose a strategy of pioneering, and radical product technologies while firms operate in a low entry barrier tend to choose a strategy of followership and incremental product and process technologies. Miller, (1987) use both published American database (called static variable) and questionnaire sent to Canadian and Australian companies (called change variable) to investigate the impact of competitive environment on the strategy formulation. He reports that the level of environmental pressure (i.e., entry barriers) was positively associated with the strategy of innovation but was negatively associated with conservative cost control strategy. Bourgeois (1985) uses a combination of interview, questionnaires and secondary data, to investigate the impact of fit between environment and strategy on firm performance. He found that congruence between environmental uncertainty and firm strategy is positively related to economic performance. That is, when the barriers to entry are low, high performing firms are those that pursue a strategy of cost efficiency whereas in an environment characterized by high entry barriers, high performing firms are associated with a strategy of innovation. Using Miles and Snow's

strategic typology, Hambrick (1982) found that strategic differences between prospectors (firms that focus on innovation) and defenders (firms that focus on efficiency) occur primarily through internal analysis of the environment and political process and not through unequal possession of information. He concluded that the result supports the view that a firm's strategic choice depend on the environment in which the firm operates.

Structural Misfit (cell 3 and 6)

The structural misfit deals with the relationship between control structure and strategy. The premise is that control structure should be designed in such a way to suit the chosen strategy. With its primary emphasis on cost reduction, a cost efficiency firm prefers to keep its product offerings stable overtime and have narrow product lines in order to minimize inventory carrying costs as well as to benefit from scale economies (Hambrick, 1983). In addition, cost efficiency firms tend to employ routine tasks and produce standard, undifferentiated products. As such, the knowledge of means and ends is relatively high and task programmability is also high. Miles and Snow (1978) characterized the control structure of cost efficiency firms as very detailed, emphasizing on problem solving, and highly centralized. These authors also propose that control may also be achieved through creating highly specialized work roles, formalized job descriptions, and standard operating procedures. Similarly, Porter (1985) suggests that highly structured organizations are suitable for a cost efficiency focus. Govindarajan and Fisher (1990) propose that firms emphasizing on efficiency should use tight control systems to limit managers' discretionary spending and to focus management efforts on performing their tasks efficiently. Therefore, control structures that are highly centralized and formal (dominant control structure) is suitable for firms pursuing a strategy of cost efficiency because the information required to make

decisions is programmable and can be formalized neglecting the possibility of overburdening the hierarchy.

Firms that pursue a strategy of innovation, by contrast, tend to pursue novel opportunities in the marketplace and require new fabrication and marketing techniques which require high involvements of managers within the firm (Miller, 1987). Prior research has found that strategy of innovation is associated with high level of uncertainty (e.g., Govindarajan, 1986; Lawrence and Lorsch, 1967; Burns and Stalker, 1961). Govindarajan (1986), for example, argues that innovative firms would face higher uncertainty due to the following reasons: First, with strong emphasis on new product developments, innovative firms will face high uncertainty since they are betting on products that have not yet crystallized. Second, firms employing a strategy of innovation tend to have a broad set of product in order to create uniqueness. Previous researchers (e.g., Gupta, 1987; Chandler, 1962) have argued that product breadth is associated with high environmental complexity and consequently with uncertainty. Finally, creating and sustaining innovation requires incurring discretionary expenditures in several areas such as improvement of quality and speed of delivery, advertising to build product image, and research and development. Accordingly, implementing an innovation strategy is likely to require decisions making by intuitive judgment. Because creativity and innovativeness are crucial to differentiate themselves in the market, firms that adopt a strategy of innovation will benefit more from a control structure that promote high involvement and freedom of their managers (i.e., shared control structure) than those that adopt a low cost strategy. In addition, as uncertainty increases, information processed tend to be unstructured and more complex. As a results, more exceptions arise that must be referred upward in the hierarchy which might be overloaded and serious delays develop between the upward transmission of information about new situations and a response to that information downward

(Tushman and Nadler, 1978). An effective way to deal with such a situation is to move the level of decision making to where information exists rather than to bring it upward in the hierarchy, suggesting decentralization in decision making is a proper response to increased uncertainty and to prevent from overburdening the top management with unnecessary information (Govindarajan, 1986; Tushman and Nadler, 1978).

Empirical research has generally supported the strategy-control structure linkage (Simons, 1990; Govindarajan, 1988; Miller, 1987; Hambrick, 1981). Miller (1987), for example, reports that centralized, formal control structure is positively related to cost efficiency strategy but negatively related to strategy of innovation. In an in-depth study of two firms using two different strategy (innovation and cost efficiency), Simons (1990), reports that the innovative firm uses more decentralized control system while the cost efficiency firm uses more centralized control structure. Based on data from strategic business unit general managers and their superiors from 24 firms on the Fortune 500 list, Govindarajan (1988) finds that innovative firms use more decentralized control structure while cost efficiency firms use more centralized control structure. This author also reports that strategic business units employing a strategy of innovation rely more on loose control mechanisms and strategic business units employing a strategy of cost efficiency rely more on tight control system.

The preceding discussions suggest that a dominant control structure is a fit for firms pursuing a strategy of cost efficiency but a misfit for firms pursuing a strategy of innovation. In contrast, a shared control structure is a fit for firms pursuing a strategy of innovation but a misfit for firms pursuing a strategy of cost efficiency.

We predict that the degree of fit among environment, strategy and control structure will be associated with shareholder value creation while a strategy and/or structural misfit will be associated with shareholder value destruction. Specifically, the following hypotheses will be tested:

H1: At the announcement of IJV formation, investors will value Strategy and structural misfits (cell 1 and 8) lower than the perfect fit (cell 4 and 5)

H2: At the announcement of IJV formation, investors will value structural misfit (cell 3 and 6) lower than the perfect fit (cell 4 and 5).

H3: At the announcement of IJV formation, investor will value strategy misfit (cell 2 and 7) lower than the perfect fit (cell 4 and 5)

Research Methodology

Sample selection

The sample is restricted to publicly-traded U.S. manufacturing firms that announce a joint venture formation for the period of 1986-1993. The manufacturing industry was selected as the research sample because firms in this industry tend to employ different types of strategy to compete effectively. In addition, firms in this industry have been facing fierce competition both domestically and internationally to capture local and world's market share (Meric et al., 2002) and therefore are expected to respond to their competitive environment by adopting a strategy and control structure that fit the environment. The use of a single industry sample also minimizes the problem of sample heterogeneity (Moores and Yuen, 2001).

Data were collected from an online data source, the *Dow Jones News Retrieval Service*. We search for announcements of joint venture formation between publicly-traded U.S. manufacturing firms and non-U.S. partners for the period of 1986-1993. To minimize the confounding effects of various economically relevant events (e.g., restructuring) on market performance measures, we follow McWilliams and Siegel's (1997) suggestion to eliminate firms who announced events other than joint venture formation during the two-day "announcement window" of interest consisting of the day

a firm's joint venture participation was first publicly announced and the following day. The numbers of IJV formation announcements that meet this data requirement are 417.

To form the database for this study, additional data were collected from a variety of sources. CRSP tapes provide information about the dependent variable (abnormal returns). The *Value Line Investment Surveys* provide information about the environment (i.e., entry barriers). The *Dow Jones News Retrieval Service* also provides data about types of strategy, and types of control structure. These additional data requirements reduce our sample firms to 74.

[Insert Table 1 here]

Variable Measurement

Abnormal return

Abnormal returns are measured as the difference between stock market return associated with the announcement of the firm's participation in a JV (i.e., actual return), and the firm's historical return (i.e., normal return). Following a standard market model, the abnormal return on day t for each firm i is calculated as $AR_{it} = R_{it} - (a_i + b_i * R_{mt})$, where R_{it} = actual rate of return for firm i on day t; a_i = the estimated intercept for firm i; b_i = the slope of parameters for firm i; and R_{mt} = rate of return on the value-weighted market portfolio on day t. The model was estimated over a 200-day period beginning 51 days before the announcement of JV formation. The abnormal returns are cumulated over the two-day announcement window. This aggregation is a common practice in event studies, and is done to account for capital markets reaction to announcements that may have been made after trading hours (McWilliams & Siegel, 1997)..

Environment

Environment is measured based on content analyses (Webber, 1990) of the descriptive information about firm-level entry barriers own by American parents in their core business provided in *Value Line Investment Surveys*. This information was analyzed for indicators of firm-level entry barriers. In most cases, the tone and content of analyst report tend to be stable, so it is relatively easy to assess the magnitude of firm-level entry barriers. In cases where the tone and content of an analyst's report were of a mixed nature, the observation was dropped from analysis. We measure entry barriers on a five-point ordinal scale (1=low entry barriers to 5=high entry barriers). In general, this protocol fully agrees with suggestions for operationalizing resource-based concepts related to subjective measurement of entry barriers (e.g., see Godfrey and Hill, 1995; Robins and Wiersema, 1995; Rouse and Daellenbach, 1999). Following are two examples of information used to classify the environment as high entry barriers and low entry barriers found in the *Value Line Investment Surveys*.

> **AN EXAMPLE OF HIGH ENTRY BARRIERS. An example of 'unique resources'.** "Unit shipments in the forms industry have declined…and profit margins have been squeezed significantly as a result of structural changes…[Standard Register's] forms business has been helped during this period by *proprietary* electronic systems…These forms processing systems, as well as the equipment division's *expertise* …should continue to enable [Standard Register's] forms segment to outpace the industry incoming years" (emphasis added).

> **AN EXAMPLE OF LOW ENTRY BARRIERS. An example of 'substitutability of resource deployment outcomes'.** AT&T has launched a new residential calling plan...We [at *Value Line*] see this new program as a defensive maneuver. It appears aimed <u>at stemming the loss of residential customers to rivals</u> MCI Communications' *Friends and Family* and Sprint's *The Most* plans" (underline added).

Strategy

This study uses Porter's (1980) strategy framework, since that conceptualization is considered by many as academically well accepted and internally

consistent (Dess and Davis, 1984; Hambrick, 1983). Porter (1980) argues that to achieve a sustainable competitive advantage, a firm must choose either to compete on the basis of efficiency (low cost) or innovation (product differentiation). A firm's strategic orientation is determined based on information provided by the parent company regarding its motivation to form the IJVs. We only include firms that clearly indicate whether the IJV establishment is a vehicle to increase efficiency or to promote the firm's ability to innovate. Following are two examples of motivation underlying the IJV formation found in the *Value Line Investment Surveys*.

> **An example of 'efficiency-seeking' STRATEGY.** "The joint venture will…encompass manufacturing plants, parts distribution depots, engineering, training, and test centers and administrative offices in the U.S., Canada, and Brazil" (Source: JV formation announcement). <u>Value Line</u> elaborates: "The year…saw [the firm] take *significant* steps…including joint venture agreements *in order to gain economies of scale*" (emphasis added).

> **An example of 'INNOVATION' STRATEGY. An example of 'resource efficiency'.** "The pricing of mature drug products has been under pressure, due to [America's] efforts to control healthcare costs. Generic competition is also likely to remain keen.   Nonetheless, market penetration by newly launched products and further product introductions...*should bring about higher profits* [for American Cyanamid]...Cyanamid's overall product development efforts *should pay off over time*...[The company's] agricultural group *should also perform well*, having *already gained a strong presence in many global markets*" (emphasis added).

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Control Structure

Control structure is determined based on information about the types of control the parent company wants to use to manage the newly created joint venture, available in the *Dow Jones News Retrieval Service*. This study classifies the control structure used by the parent firm to manage the IJVs into two categories: shared control structure and dominant control structure. We exclude firms that do not state clearly their intention to use a particular control structure. Following are two examples of the types of control structure use by the parent company to manage the IJV.

Example 1 of 'unilateral' decision-making. "Coca-Cola Amatil Ltd. of Australia and Budapesti Kiloripari Vallalat said they entered an agreement to form a joint venture company…Coca-Cola Amatil [a subsidiary] of Coca-Cola Co. *will have management control*." (Source: JV formation announcement; emphasis added).

Example 2 of 'unilateral' decision-making. "Union [a joint venture partner] will be the developer and operator of the new Dow-Sarnia storage pool, and will also *administer* the joint agreement." (Source: JV formation announcement; emphasis added).

Example 3 of 'unilateral' decision-making. "Gillette Co. said it signed a joint venture with a Soviet concern to make…razor blades, shaving systems and disposable razors…Gillette would have *management control* and a 65% equity stake in the company." (Source: JV formation announcement; emphasis added).

Example of 'shared' decision-making. "Gexa Corp. said it has reached a final joint venture agreement with Echo Bay…The venture will be *directed* by a management committee comprised of members from *both* companies." (Source: JV formation announcement; emphasis added).

Statistical Analyses and Results

Of the 74 firms, 24 firms shows perfect fit, 4 firms have both strategy and structural misfits, 19 firms have structural misfit, and 27 firms have strategy misfit. Table 2 presents the descriptive statistics and the results of the General Linear Model procedures of analyzing the effects of misfits on shareholder value. Consistent with our predictions, the mean abnormal returns for IJVs with both misfits (-0.0039) and IJVs with structural misfit (-0.0082) are lower than those of IJVs that have perfect fit (0.0032). Contrary to our prediction, however, the mean abnormal returns of IJVs with strategy misfit (0.0035) are slightly higher than that of IJVs that have perfect fit (0.0032).

[Insert Table 2 here]

The overall F-statistics for the General Linear Model procedure is significant (F = 4.26; p = 0.0020) indicating that the fit and misfits conditions significantly affect the

variation in the abnormal returns. Hypothesis H1 predicts that investors will value IJVs that have both strategy and structural misfits lower than IJVs that have perfect fit. The results reveal that the abnormal returns of IJVs that have both strategy and structural misfits are significantly lower than those of IJVs that have perfect fit (F = 2.25; p = 0.0693)[174]. These results confirm hypothesis H1. Hypothesis H2 expects that investors will value IJVs that have structural misfit lower than IJVs that have perfect fit. The results show that the abnormal returns of IJVs that have structural misfit are significantly lower than those of IJVs that have perfect fit (F = 15.22; p = 0.0001). These results are consistent with hypothesis H2. Hypothesis H3 predicts that investors will value IJVs that have strategy misfit lower than IJVs that have perfect fit. The results show that the abnormal returns of IJVs that have strategy misfit is significantly higher than those of IJVs that have perfect fit (F = 7.77; p = 0.0035). These results contradict hypothesis H3.

[Insert Table 3 here]

We conducted further analyses to investigate the contradictory results regarding hypothesis H3. We partition our sample based on the two levels of entry barriers (low and high). Table 3 shows the descriptive statistics of the sample firms partitioned by the level of entry barriers.

[Insert Table 3 here]

[Insert Figure 2 here]

Table 3 reveals that all the IJVs that have strategy misfit operate in the high entry barriers environment. It might be that when firms possess resources that are hard to be imitated by their competitors, firms can compete effectively using either innovative or cost efficiency strategy and, therefore investors do not penalize firms that

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[174] All reported p-values are one-tailed because we are testing directional hypotheses.

have strategy misfits when entry barriers are high and pay more attention to information about fit (misfit) when the entry barriers are low.

To investigate whether investors value fit (misfit) differently across different levels of entry barriers, we compare the abnormal returns of IJVs that have perfect fit and both strategy and structural misfits in low entry barriers with those in high entry barriers. Figure 2 illustrates the abnormal returns of the sample firms under conditions of fit (misfit) partitioned by the level of entry barriers. As shown in Figure 2, IJVs that have strategy *and* structural misfits in low entry barriers are valued lower than IJVs that have strategy *and* structural misfits in high entry barriers (mean abnormal returns of -0.014 and 0.027 respectively). In addition, IJVs that have perfect fit in low entry barriers are valued higher than IJVs that have perfect fit in high entry barriers (mean abnormal returns of 0.0599 and -0.002 respectively)[175]. The results of these additional procedures indicate that investors pay more attention and impound the information about fit/misfits into the stock price more when the entry barriers are low as compared to when the entry barriers are high. This is not surprising because when the entry barriers are low, firms performance are very sensitive to competitive pressure. By contrast, when the entry barriers are high, firms performance tend to be stable due to less competitive pressure.

Discussion and Direction for Future Research

This study investigates the effects of fit (misfits) among environment, strategy, and control structure on share holder wealth on the announcement of IJVs formation. Consistent with our predictions, this study found that IJVs that have perfect fit are valued higher than those with both strategy and structural misfits and also those with structural misfit. One contradictory result was found when comparing IJVs that have

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[175] We cannot make other comparisons due to limited number of observations (some cells do not have any observations).

perfect fit with those that have strategy misfit. While we expect that IJVs that have perfect fit will be valued higher than those with strategy misfit, the result shows the opposite. Further analyses indicate that all cases that show strategy misfit are firms operate in high entry barriers. One potential explanation for this contradictory result is that under high entry barriers, firms can compete effectively using either innovation or cost efficiency strategy due to the fact that the firms possess resources that are difficult to be imitated by their competitors. Further investigations also confirm our argument that investors tend to pay more attention to information about fit (misfit) when the entry barriers are low as compared to when the entry barriers are high.

This study makes three contributions to the literature investigating the relationship between the announcement of IJV formation and share holder value. First, we use the concept of fit among environment, strategy, and control structure and investigate the effects of fit (misfit) on share holder value creation (destruction). Although this concept is widely used in accounting and strategic management literature, it has not been tested in the context of IJVs. Second, we deconstruct the notion of fit into strategy and structural misfits and investigate their individual and joint effects on shareholder value creation (destruction) associated with initial public announcement of IJV formation. Third, we find that the notion of fit among environment, strategy, and control structure matters. The higher abnormal returns of IJVs that have perfect fit as compared to those with both strategy and structural misfits, and those with structural misfit is consistent with the widely held belief in the accounting and strategic management literature that the fit between environment, strategy and control structure positively affect performance.

The results of this study, however, should be interpreted in light of two limitations. First, the competitive environment used in this study is based on a subjective measure of firm-level entry barriers. It might not necessarily reflect the true

1091

nature of competitive environment faced by the firms. Future research might consider other measures of environment such as earning volatility or types of technology. Second, this study uses data from manufacturing sectors. Future research needs to examine whether the results reported in this study can be extended to other industry. Although the use of single industry data minimizes the sample heterogeneity problems, our understanding of the impact of fit among environment, strategy, and control structure would be enhanced if it is generalized across industry.

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Figure 1

The Contingent Relationship Among Environment, Strategy, and Control Structure

	Strategy	
	Innovation	**Cost Efficiency**
Low Entry Barriers	Shared Control Structure **Strategy and Structural Misfits (1)**	Shared Control Structure **Structural Misfit (3)**
	Dominant Control Structure **Strategy Misfit (2)**	Dominant Control Structure **Perfect Fit (4)**
Environment	Shared Control Structure **Perfect Fit (5)**	Shared Control Structure **Strategy Misfit (7)**
High Entry Barriers	Dominant Control Structure **Structural Misfit (6)**	Dominant Control Structure **Strategy and Structural Misfits (8)**

Table 1

Descriptive Statistics for Overall Sample

Conditions	Mean	SD	Minimum	Maximum
Perfect Fit (n=24)	0.0032	0.0240	-0.0378	0.0640
Both Misfits (n=4)	-0.0039	0.0260	-0.0363	0.0273
Structural Misfit (n=19)	-0.0082	0.0194	-0.0387	0.0324
Strategy Misfit (n=27)	0.0035	0.0270	-0.0598	0.0407

Table 2

Results of the General Linear Model Procedure

Comparison	NDF	DDF	F-value	p-Value
Both Misfits vs. Perfect Fit	1	68	2.25	0.0693*
Structural Misfit vs. Perfect Fit	1	68	15.22	0.0001***
Strategy Misfit vs. Perfect Fit	1	68	7.77	0.0035***

*,**,***, denote significant levels at 0.10, 0.05, and 0.01 respectively. All p-values are one-tailed since all the hypotheses are directional hypotheses.

Table 3

Descriptive Statistics for Sample Partitioned by Level of Entry Barriers

Panel A: Low Entry Barriers

Conditions	Mean	SD	Minimum	Maximum
Perfect Fit (n=2)	0.0599	0.0057	0.0559	0.0639
Both Misfits (n=3)	-0.0144	0.0190	-0.0363	-0.0026
Structural Misfit (n=19)	-0.0082	0.0194	-0.0387	0.0324
Strategy Misfit (n=0)	n/a	n/a	n/a	n/a

Panel B: High Entry Barriers

Conditions	Mean	SD	Minimum	Maximum
Perfect Fit (n=22)	-0.0019	0.0172	-0.0378	0.0386
Both Misfits (n=1)	0.0273	n/a	0.0273	0.0273
Structural Misfit (n=0)	n/a	n/a	n/a	n/a
Strategy Misfit (n=27)	0.0035	0.0270	-0.0598	0.0407

Figure 2

Environmental Effects on the Relationship between Misfits and Fit

COMPREHENSIVE EVALUATION OF THE POLICY IMPLEMENTATION OF GUIDELINES FOR THE PRESENTATION AND DISCLOSURE OF ISSUERS AND PUBLIC COMPANIES' FINANCIAL STATEMENT

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Abstract

In 2005 Bapepam issued Circulation No. SE-02/PM/2002 about P3LKE (Guidelines for the Presentation and Disclosure of Issuers and Public Companies' Financial Statement), that regulates the standardization of issuer's financial statement disclosure based on industry types. This guideline is applicable for 13 industries, namely manufacture, investment, hospital, highway, hotel, restaurant, communication, construction, trade, transportation, real estate, animal husbandry and plantation. This research aims to evaluate the aforementioned policy implementation by analyzing the issuer's disclosure degree (P3LKE index) at the Indonesia Stock Exchange in 2007 and the progress of issuer's disclosure in 2001-2007 as well as studying the factors that influence the disclosure level. The research sample comes from the 11 abovementioned industries (hospital and restaurant not included because there were no issuers from these industries in 2007).

The P3LKE index in 2007 was still significantly low at approximately 28%. Disclosure level tends to increase from 2001 (the year prior to the issuance of P3LKE) at 22% to 25-27% in 2002-2007, but the increase is relatively small at 3-5%.

Assessment result shows that corporate governance components (rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency) have positive effects towards disclosure level, while responsibility of board does not have a significant effect. This result shows that in general good CG will improve company's disclosure, although it also indicates the lack of effectiveness of the role of board of directors and commissioners towards the practices of company disclosure. These findings support the argument that large companies have political costs and bigger resources so they must and are able to perform a more extensive disclosure in the financial statement.

Keyword: P3LKE, Disclosure, Mandatory Disclosure, Corporate Governance

1. Introduction

In 2002, Bapepam (Indonesian Capital Market and Financial Supervisory Agency) issued Bapepam's Circulation No. SE-02/PM/2002 about P3LKE (Guidelines for the Presentation and Disclosure of Issuers and Public Companies' Financial Statement). This guideline regulates the standardization of issuer's financial statement disclosure based on industry types. This guideline was made effective on 27 December 2002 for issuers in 13 types of industries namely manufacture, investment, hospital, highway, hotel, restaurant, communication, construction, trade, transportation, real estate, animal husbandry and plantation.

The standardization of P3LKE is aimed to improve the quality of issuer's financial statement disclosure at the Indonesian Stock Exchange (IDX). The quality improvement of financial statement disclosure is hoped to reduce asymmetric information between managements and investors as well as among investors themselves, which in the end can increase the value of the company (Verrechia, 2001). Several empirical studies such as Botosan (1997), Sengupta (1998), Mardiyah (2000) indirectly find positive influence of disclosure towards company value. Therefore the quality improvement of financial statement disclosure with the implementation of P3LKE is hoped to be able to reduce asymmetric information, so that market capitalization and company value are improved.

However, several empirical studies about P3LKE in Indonesia such as 2005), Siagian, Siregar, and Rahadian (2006), also Batu (2007) find evidence that issuer's level of compliance towards P3LKE in manufacture sector is still relatively low, at approximately 60-65%.

The compliance level towards P3LKE is supposed to be at or at least close to 100% because P3LKE's requirements are mandatory. Siagian, Siregar, and Rahadian – SSR (2006) also is unable to find a positive effect of P3LKE-based-disclosure (measured in index score) towards corporate governance practices and company value. It is as though this result indicates that the implementation of P3LKE is not effective and does not have a positive influence on the improvement of Indonesia's stock market.

Kadarusman (2007) conducted a more in-depth research about the effectiveness of P3LKE by comparing the level of disclosure before and after the implementation of P3LKE. Kadarusman (2007) found evidence that the implementation of P3LKE has relatively improved the disclosure quality of issuer's financial statement.
Aside to that Kadarusman (2007) also found negative impact of P3LKE's index towards the aggressiveness of profit management. In other words higher disclosure (higher P3LKE's index) has negative effect towards profit management. In general Kadarusman

(2007)'s research provides different conclusion with the researches of Setianto (2005), SSR (2006), and Batu (2007), that although the issuers level of compliance towards P3LKE is absolutely low, but relatively the implementation of P3LKE has improved the disclosure quality. In contrary with SSR (2006), Kadarusman (2007) found evidence of the influence of disclosure level towards profit management.

Nevertheless there are several important questions that have not been answered in the researches of Setianto (2005), SSR (2006), Batu (2007), and Kadarusman (2007). First, those researches have not been able to answer why P3LKE's mandatory regulations have low compliance level. This can show how weak the enforcement of the regulator is or how it is influenced by the operation of P3LKE's index measurement in those studies, or there were other influencing factors.

Second, those researches only used companies that came from manufacture industry as research samples. What about the compliance level of companies (issuers) in other sectors and what about the compliance level of companies (issuers) in general? What are the factors that contribute to the difference of compliance level of companies per industry sector and in general?

Third, those researches had not examined the development of compliance level towards P3LKE in a time-series manner. Kadarusman (2007) only compared the compliance level before the implementation of P3LKE, which was in 2001, and the compliance level after the implementation of P3LKE, which was in 2005. Was there a gradual improvement during P3LKE's implementation in 2002-2007? What factors that affect the improvement (or decline) of the compliance level towards P3LKE each year?

This research attempts to answer those questions and / or loopholes of the abovementioned researches. This research will conduct a qualitative and explorative study to identify the factors that affect issuer's compliance level towards the aforementioned Bapepam-LK's regulation, by questionnaires and or interviews of parties related to the presentation of issuer's financial statement. This research will formulate a disclosure index measurement instrument by referring to P3LKE's regulations which will be used to calculate the disclosure level of all companies in 11 industries that already have P3LKE's index.[179]

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[179] In 2002 Bapepam-LK issued P3LKE for 13 industries, i.e. manufacture, highway, construction, plantation, telecommunication, hotel, transportation, investment, animal husbandry, trade, real estate, restaurant, and hospital. However based on the 2007 Bapepam-LK classification no issuers existed in the restaurant and hospital industry, so these two industries are not included in the scope of this research.

The P3LKE's index calculation will be conducted on more years, that is 2001-2007. Followed by examination of factors that affect the compliance level.

This research becomes imperative considering Bapepam-LK plan to issue P3LKE regulations for five other industries, i.e. mining, oil and gas, life insurance, loss insurance and financial institution. A comprehensive evaluation of P3LKE's implementation on several industries will give a critical illustration about the effectiveness and difficulties faced in the implementation and will become valuable information in determining the next P3LKE's policy issuance and other stock market policies.

The sample for this research is all companies in several industry sectors that already have P3LKE, such as manufacture, highway, construction, plantation, telecommunication, hotel, transportation, investment, animal husbandry, trade and real estate. Observed years start from 2001 until 2007. The year 2001 is selected to represent the preceding year before P3LKE's implementation and to avoid the 1997-1998 crisis effect. Observed years end at 2007 which is the latest company financial statement until the end of this research period. Sample selection to be done is related with data availability to operate all variables used in this research.

2. Research Method

The existence of asymmetrical information can obstruct the optimum investment allocation, especially in stock market. A sufficient disclosure is one way to repress that asymmetrical information. Although each company has incentives to carry out voluntary disclosure in signaling structure, but with the goal to protect investors in general then the regulation concerning minimal disclosure is nonetheless required.

Related with the abovementioned minimal disclosure, Bapepam-LK has issued regulation about the presentation and disclosure of issuer's financial statement, which is called P3LKE (Guidelines for the Presentation and Disclosure of Issuers and Public Companies' Financial Statement). That regulation is presented through Bapepam's Circulation Letter No. SE-02/PM/2002 about the Guidelines for the Presentation and Disclosure of Issuers and Public Companies' Financial Statement. This guideline is effective per 27 December 2002 for issuers in 13 industries namely manufacture, investment, hospital, highway, hotel, restaurant, communication, real estate, animal husbandry, and plantation.

Several preceding studies had been conducted to show the effects or benefits of disclosure in repressing asymmetric information, directly or indirectly. Botosan (1997),

for instance, find indirect evidence of the influence of disclosure level towards company value. A similar issue found by Sengupta (1998), which is the existence of a negative and significant correlation between disclosure quality and cost of debt, whether it is calculated using yield to maturity or effective interest cost.

A research in Indonesia by Mardiyah (2000), which adopted the research by Botosan (1997), obtains a similar result where better disclosure level will reduce cost of equity. Utama (2003) also suggest that with the improvement of disclosure level, companies can achieve stock market efficiency, more liquid stocks, and in the end can increase company's capitalization and also gaining lower capital cost.

Meanwhile, several other empirical studies examine the factors influencing company disclosure level. Buhr and Freedman (2001) indicate that culture and institutional infrastructure of a company also affect the level of voluntary and compulsory disclosure in the financial reports of companies in each country. Whereas Ostberg (2006) finds evidence that a compulsory disclosure regulation and a good law protection level of investors will result in higher disclosure level. Other study by Srinivasan (2006) concludes that company size positively affects disclosure level.

A few other empirical studies in Indonesia try to develop an index measuring disclosure level of listed companies. Gunawan (2000) shows the disclosure level of those companies is only 39.34%, while the influencing factors of the disclosure level are company size and ratio of liability to asset. Another research by Irwanto (2000) which examine information disclosure in the financial reports of banks in 1990, found evidence that those banks' compliance level in information disclosure averagely only reached 58.3%.

Whereas Pardede (2001) shows that in 1996, the variables affecting the adequacy of disclosure level were company size, liquidity level, leverage level and compliance level when submitting financial statement. While in 1999, the affecting variables were company size, leverage level, type of public accountants who performed the audit and how often the company became analysis subject.

Next Fitriany (2001) shows that companies' compulsory disclosure levels barely reached 59.8% and voluntary disclosure level averaged at 45.46%. Factors found that influenced the compulsory disclosure level index were company size, company status, company type, profitability rate, and the public accountant who performed the audit. Whereas voluntary disclosure index were by the same variables except type of company (industry cluster).

Bachtiar (2003) adopted the disclosure index made by Fitriany (2001) and uses it to test a simultaneous equation between disclosure level with profit management of

companies listed in IDX before and after the financial crisis. Her research shows that company size significantly affected disclosure level. Other research by Amalia (2005) who compared the disclosure level developed by Botosan (1997) with financial report disclosure administered in Head of Bapepam-LK Decree No. Kep-38/PM/1996, find evidence that only company size and ownership structure have significant influence to scope of voluntary disclosure in yearly company financial reporting.

Several other researches try to develop disclosure indices based on P3LKE's regulations. Setianto (2005) examines P3LKE's disclosure level of manufacturing companies listed in IDX in 2002-2003. His research shows that the compulsory disclosure levels of those companies were relatively low, approximately at 47.97% - 77.03% with an average of 64.37% in 2002, and approximately at 49.7% - 100% with an average of 65.28% in 2003. Setianto (2005) also find that the existence if audit committee, the scale of public accountant office who performed the audit, and company size each had a positive connection with disclosure level.

Further study by Batu (2007), also using P3LKE disclosure level, examines the compulsory disclosure level of manufacturing companies listed in IDX during 2003-2005. The conclusion is that the compulsory disclosure level of those companies averaged at 53%. The influencing factors of the compulsory disclosure level are company size and asset utilization.

A research involving P3LKE index was also conducted by Siagian, Siregar, and Rahadian – SSR (2006) who examined whether there was simultaneous correlation among ownership structure, corporate governance, reporting quality, and company value. P3LKE index was used as a measurement of reporting quality. The result shows that none of those variables significantly influenced P3LKE index disclosure level.

P3LKE index from SSR (2006) research indicates that there was little increase in compliance level towards P3LKE from 2003 to 2004, at 61.73% to 62.06%. This compliance index level is relatively not high enough and does not show a significant increase from 2003 to 2004. Although there are differences in both total score and individual score in each category for 2003 and 2004, there is no statistically significant difference between both scores in those years.

This research conducted a retest to calculate P3LKE index and P3LKE index ranking per industry, P3LKE index ranking in overall, and index development each year. Afterwards an empirical examination is conducted to identify P3LKE index influencing factors.

Several factors believed to have influence towards disclosure are corporate governance practice, audit quality, company size, company age, and company

profitability. With the implementation of corporate governance in a company, external disclosure is supposed to be more transparent, including compliance towards P3LKE disclosure. Haniffa & Cooke (2002) discover that corporate governance positively influenced the level of company disclosure (both voluntary and compulsory). This research will use corporate governance index to calculate the performance of corporate governance in companies.

Audit quality according to DeAngelo (1981) is joint probability to detect and report material error in financial reports. She argues that audit quality improves with the size of public accountant size because bigger public accountant has more ability to specialize and innovate through technology so that the possibility of a big public accountant to find violation in accounting system is more probable. It is also stated that big public accountant has more to lose should an audit error happens. Therefore public accountant size is often used in researches as proxy to audit quality.

Watts & Zimmerman (1986) also assert similarly. Singhvi and Desai (1971) find a significant correlation between public accountant and disclosure quality. Additionally Fitriany (2001) in her research find that the size of public accountant has positive influence towards disclosure level.

Agency theory states that big companies have bigger agency concerns than smaller companies (Jensen and Meckling, 1976). Watts & Zimmerman (1978) also state that bigger companies faced bigger political problems and attract bigger attention from regulators, market and public, therefore bigger companies have incentives to improve and maintain their reputation and corporate image. More information disclosure is one way to reduce agency cost and as a mean for company to build public accountability. Besides that big companies have more resources, so that companies can finance information availability for internal as well as external needs (Singhvi and Desai, 1971).

According to Marwata (2001), company age is presumed to have positive influence due to voluntary disclosure quality. The basic reasoning is that more mature companies have more experience in publishing annual financial reports. Companies with more experience know better the constituents need for their companies' information. Al-Shammari (2008) found that company maturity significantly has positive influence towards voluntary disclosure in companies in Kuwait.

Based on signaling theory it is stated that companies with higher profitability will have incentives to differentiate them with other non-achieving companies, so that they can acquire capital with cheaper cost. One way is to disclose more. Moreover, with higher profitability management has more resources for a more extensive disclosure to stockholders.

The research model to be used to examine the influencing factors of disclosure is:

P3LKE = a_0 + a_1 CG_INDEX + a_2 AUDIT + a_3 SIZE + a_4 AGE + a_5 ROA + e (1a)

Where:

P3LKE = P3LKE index score

CG_INDEX = CG index score, calculated based on corporate governance checklist using secondary data. All questions in the checklist are categorized into 5 sections in accordance to OECD principals, which are:

   1. Rights of shareholders (RIGHT_SH)

   2. Equal treatment of shareholders (EQ_SH)

   3. Role of stakeholders (ROLE_ST)

   4. Disclosure and transparency (DISC_TR)

   5. Responsibility of board (RESP_BRD)

AUDIT = audit quality, where 1 is for companies audited by Big 4 Public Accountants and 0 is the opposite.

SIZE = natural logarithm of total asset

AGE = company's listing age in IDX

ROA = *return on assets*

To identify the effect of each component towards P3LKE index, a research model such as below is used:

P3LKE = b_0 + b_1 RIGHT_SH + b_2 EQ_SH + b_3 ROLE_ST + b_4 DISC_TR
+ b_5 RESP_BRD+ b_6 AUDIT + b_7 SIZE + b_8 AGE + b_9 ROA + e   (1b)

The main variable used in this study is P3LKE financial report disclosure level index based on SE-02/PM/2002. This research developed a checklist from P3LKE regulations. There are three possible answers of each item in the checklist, Yes (company disclosed according to SE-02/PM/2002), No (company did not disclose according to SE-02/PM/2002), or Not Applicable (N/A) (company does not have any transactions or accounts related so no disclosure is necessary). P3LKE index is obtained with the formula: *Σ Yes / total items in checklist.*

The sample of this research is all company population listed in IDX for 11 industries, namely manufacture, highway, construction, plantation, telecommunication, hotel, transportation, investment, animal husbandry, trade and real estate, which already has P3LKE's requirements and that there is at least 1 company included in either one of those industries. Sample selection will only be based on data availability.

Based on data availability, a sample size of 228 companies is obtained for P3LKE index calculation in 2007. For hypotheses testing of factors influencing

disclosure index, our sample size is reduced to 190 companies because of incomplete data.

4. Results and Discussion

4.1. P3LKE Index

Descriptive statistic from P3LKE index in 2007 is illustrated in Table 1. The total companies listed in IDX that became the sample in P3LKE index calculation for 2007 are 228 companies. Those companies are spread among 11 industries i.e. real estate, trade, animal husbandry, investment, transportation, hotel, telecommunication, plantation, construction, highway and manufacture. The majority of sample is included in manufacture industry, 118 companies (51.8%). Whereas the industry with the least companies is highway industry (2 companies).

Table 2 illustrates the calculation of all samples with and without including the investment industry. This calculation is done because the investment industry has a simpler complexity compared to other industries. This can be seen in the comparison of number of items in P3LKE checklist for investment industry which is 150 whereas for other industries range at 627-720 items.

Based on the calculation of P3LKE index in 2007, it can be identified that the average compliance level towards P3LKE for all sample companies by including (not including investment industry) is still low at 28.34% (27.91%). The low P3LKE index average appears fairly spread, revealed by the average deviation standard at 5-6%.

To examine the development of issuer's disclosure level, a calculation using P3LKE index is conducted starting from 2001 until 2007, especially for manufacturing industry. This limitation is done regarding the lack of time and the number of companies included in manufacturing industry is the biggest compared to other industries, so it is expected the result can give an overall illustration of disclosure for all issuers. Table 4.4 and Graphic 4.1 present the disclosure development of manufacture industry in 2001-2007.

The level of disclosure in Table 2 and Graphic 1 only took account of 77 companies in manufacture industry which data is available from 2001 until 2007. From that table and graphic, an increasing development of disclosure level from 2001 until 2004 is visible, but afterwards declining in 2005, although it is increasing once more in 2006 and 2007. The year 2001 was the year before P3LKE was issued and it is noticeable that year shows the lowest disclosure level at approximately only 22%. Starting from 2002 is the period where P3LKE implementation has started and an increase in disclosure level is indeed recognizable at 25-27%. Even though there is an

increase but it is relatively insignificant at 3-5% from the period prior to P3LKE implementation.

Table 1

P3LKE Index Descriptive Statistics Year 2007

Industry	N	Mean	Std. Dev.
Manufacture	118	27,59%	4,69%
Real Estate	32	28,59%	5,97%
Trade	29	26,81%	5,58%
Animal Husbandry	10	26,06%	5,85%
Transportation	9	30,39%	4,85%
Telecommunication	6	32,52%	6,66%
Plantation	6	32,01%	7,52%
Hotel	4	28,21%	9,52%
Construction	3	24,64%	7,56%
Highway	2	28,51%	1,74%
Investment	9	38,81%	11,76%
Total – including Investment	228	28,34%	6,12%
Total – not including Investment	219	27,91%	5,40%

Table 2

Manufacture Industry P3LKE Index Years 2001-2007

Year	P3LKE Index
2001	21,98%
2002	25,97%
2003	27,18%
2004	27,28%
2005	24,94%
2006	26,24%
2007	27,19%

Graphic 1

Manufacture Industry Disclosure Level Development

Years 2001-2007

Based on the abovementioned result the compliance level towards P3LKE is still insufficiently high. This finding needs to be of Bapepam-LK's attention as the stock market regulator that issued this P3LKE regulation and also of IDX's. Bapepam-LK and IDX need to do a more stringent supervision regarding public companies compliance of P3LKE and to find out the problems faced by those companies in implementing P3LKE. Other than that, one of the things that caused low disclosure level as explained above is the numerous items in the checklist with N/A value. This is important because often it is not easy to perform a disclosure because indeed that transaction is not applicable for the aforesaid company or because the company has that transaction but for one reason or another did not disclose it (No). If this issue can be identified then P3LKE index calculation no longer need to include items with N/A value but only items with Yes or No values.

To discover the problems faced by companies in implementing P3LKE and the difficulty in awarding No or N/A value and also the opinions of related parties of the abovementioned Bapepam's regulation a Focus Group Discussion was conducted with various public accountants from different Public Accountant Firms (PAF). A public accountant is an independent party who audited a company's financial statement to assert an opinion about the fairness of financial statements, therefore they are in a position of ample understanding about company disclosure and the problems in P3LKE implementation.

Based on the aforementioned FGD several things are acquired:

1. The absence of disclosure for certain items in a financial statement may be caused by several things:
   a. Transaction does not exist in the company
   b. The value is immaterial, thus no need for disclosure
2. P3LKE must refer to VIII.G.7 and PSAK, because P3LKE is not a standard but a reporting model.
3. Since several standards in PSAK have been revised since 2002, then P3LKE must be revised periodically so that it is always up to date with the newest accounting standard.

4.2 Factors Influencing Disclosure Index

Descriptive statistic of the variables used can be seen at Table 3. P3LKE index value is approximately 28%. While CG index value is adequate at 60.5% and the variation in sample is fairly low at approximately 6.7%. Whereas for the highest average value of the 5 components of CG index is in the Equitable Treatment of Shareholders component, the lowest in Board Responsibilities component. The low value in Board Responsibility component may indicate the ineffectiveness of the board, both directors and commissioners, in the company.

Only 41.6% of companies were audited by Big 4 PAF while the rest were audited by non Big 4 PAF. The size of the companies varied, the smallest had a total asset of Rp 2,167 million and the largest had Rp 82,059 million. Company age also varied from companies that had just been listed in IDX (2 years) and ones that had been listed for 30 years. While if seen from profitability level, the average ROA is small at only 5.1%.

Table 4 provides a regression result of factors influencing disclosure level using P3LKE index. Examination result in Panel A shows that CG index does not prove to have positive influence to P3LKE index. This result is contrary to Haniffa & Cooke (2002) who found that corporate governance practices had positive influence towards disclosure. To see if there are any CG components affecting P3LKE index will be seen in the next examination.

Table 3

Descriptive Statistics

Variable	Min	Max	Mean	Std. Dev.
P3LKE	0,146	0,560	0,286	0,063
CG_INDEX	0,461	0,804	0,605	0,067
RIGHT_SH	0,420	0,623	0,513	0,037
EQ_SH	0,528	0,944	0,826	0,074
ROLE_ST	0,333	1,000	0,586	0,149
DISC_TR	0,438	0,990	0,657	0,103
RESP_BRD	0,373	0,849	0,506	0,099
AUDIT	0,000	1,000	0,416	0,494
SIZE (in Rp million)	2.167	82.059	3.346	8.956
AGE	2,000	30,000	13,437	5,297
ROA	-0,270	0,388	0,051	0,101
Valid N	190			

Tabel 5.6

Regression of Factors Influencing Disclosure Index

Panel A

P3LKE = a_0 + a_1 CG_INDEX + a_2 AUDIT + a_3 SIZE + a_4 AGE + a_5 ROA + e (1a)

Variable	Coeff.	t-stat	p-value	
C	-0,473	-6,091	0,000	***
CG_SCORE	0,007	0,106	0,458	
AUDIT	-0,021	-2,499	0,007	***
SIZE	0,028	9,137	0,000	***
AGE	0,000	0,542	0,294	
ROA	0,027	0,803	0,211	
Adj. R2	0,441			
F-stat	30,880			
p-value (F-stat)	0,0000 ***			

Panel B

P3LKE = b_0 + b_1 RIGHT_SH + b_2 EQ_SH + b_3 ROLE_ST + b_4 DISC_TR +

b_5 RESP_BRD+ b_6 AUDIT

+ b_7 SIZE + b_8 AGE + b_9 ROA + e (1b)

Variable	Coeff.	t-stat	p-value	
C	-0,450	-5,439	0,000	***
RIGHT_SH	0,158	1,570	0,059	*
EQ_SH	-0,082	-1,625	0,053	*
ROLE_ST	-0,073	-2,758	0,003	***
DISC_TR	0,081	1,803	0,037	**
RESP_BRD	0,051	0,997	0,160	
AUDIT	-0,016	-1,917	0,028	**
SIZE	0,025	8,359	0,000	***
AGE	0,000	0,717	0,237	
ROA	0,034	1,041	0,150	
Adj. R2	0.471			
F-stat	19,713			
p-value (F-stat)	0,000 ***			

Contrary to expectation, AUDIT variable had significant negative influence towards P3LKE index. This result is opposite to the finding of Singhvi and Desai (1971) and Fitriany (2001) who in their research found that the scale of public accountant firms had positive influence in disclosure level. The correlation result (untabulated) shows that AUDIT had significant positive influence with P3LKE index, while multi-variants testing showed negative influence. This finding may be the result of a fairly strong positive correlation between SIZE and AUDIT. The correlation of AUDIT with SIZE is biggest compared to other independent variables in the equation (1a). Positive correlation between SIZE and AUDIT shows that big companies tend to choose to be audited by Big 4 PAF compared to small companies.

Company size have significant positive influence on P3LKE index. This result supports the argument that states that bigger companies have bigger political cost so that they must and are able to do a broader disclosure in financial statements. This result is possible to be influenced by how P3LKE index was calculated where it accounted all items in the checklist so that bigger companies (with more complex transactions) are possible to have higher P3LKE index compared to smaller companies.

AGE and ROA variables showed insignificant result which means the listing age of companies and profitability level do not have any effect on the disclosure level. This might be caused by the compulsory nature of P3LKE so age and company profitability did not affect it.

Test result in panel B shows that 4 out of 5 components of CG have positive influence to disclosure level, i.e. rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency. Only 1 component, that is responsibility of board, that does not have a significant effect on disclosure level. Based on the descriptive statistics explained on the previous part, it is identified that responsibility of board component is the CG index component with the lowest average value compared to other components. The low average value and the insignificancy of aforementioned CG component can indicate the ineffectiveness of board, both directors and commissioners, including company's disclosure practices.

5.   Conclusion

P3LKE index for 2007 was rather low at approximately 28%. The low P3LKE index average appeared to be evenly spread, revealed from the average value of deviation standard at 5-6%. While the average P3LKE index for each industry, namely manufacture, real estate, trade, animal husbandry, transportation, telecommunication,

plantation, hotel, construction, highway and investment, is: 27,59%, 28,59%, 26,81%, 26,06%, 30,39%, 32,52%, 32,01%, 28,21%, 24,64%, 28,51%, dan 38,81%.

The development of disclosure level (P3LKE index) tends to increase from 2001 until 2007. 2001 was the year when P3LKE was issued and in that year the disclosure level was the lowest at approximately 22%. 2002 and the following years are the period where P3LKE has been implemented and showed an increase in disclosure to 25-27%. Although there was an increase, it was not significant at just approximately 3-5%.

Test result in panel B showed that 4 out of 5 components of CG have positive influence to disclosure level, i.e. rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency. Only 1 component, that is responsibility of board, that does not have a significant effect on disclosure level. That component is the CG index component with the lowest average value compared to other components. The low average value and the insignificancy of aforementioned CG component can indicate the ineffectiveness of board, both directors and commissioners, including company's disclosure practices.

Furthermore, company size also has positive significant influence to P3LKE index. This result supports the argument that states that bigger companies have bigger political cost so that they must and are able to do a broader disclosure in financial statements. This result is possible to be influenced by how P3LKE index was calculated where it accounted all items in the checklist so that bigger companies (with more complex transactions) are possible to have higher P3LKE index compared to smaller companies.

This research has several limitations. First, judgment is often needed which may cause subjectivity in determining whether a disclosure item in P3LKE is given a value of No (not implementing) or N/A (not applicable). Second, the research period to see the time series of P3LKE index development is limited to manufacture industry only and the research period to test factors influencing issuer's compliance of P3LKE is just 1 year only, in 2007. Third, CG index calculation is based only on secondary data, so that not all aspects of CG implementation in the company are obtained. The scope of items in the checklist is also not guaranteed to precisely show the effectiveness of a company's corporate governance implementation. Last, the exclusion of time log aspect in the research model. For example, CG implementation in year t will only affect the quality of disclosure in year t+1.

This research has an implication for regulator in that they need to review the implementation of P3LKE and to give reward and punishment for the execution of that regulation, as well as to formulate P3LKE based on VIII.G.7 and PSAK and to

periodically update P3LKE adjusted to the latest development of PSAK, at the minimal of once a year.

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DETERMINANTS AND EARNINGS QUALITY OF THE VOLUNTARY FILERS OF XBRL IN KOREA

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Summary: In the last few years, there have been efforts to improve accounting quality and transparency. As a part of these efforts, accounting regulators developed a new financial reporting tool named XBRL, based on XML. The tagging of XBRL to each accounting item means that world-wide information users can expect to see the same characteristics in a specific item, and so users can retrieve and analyze information with no concerns about the substance of the information that they collect. The efficiency and effectiveness of financial information should therefore be markedly improved.

From August 2006, the FSS (Financial Supervisory Service) in Korea has started to carry out a voluntary program with 251 voluntary filers, and XBRL Korea has already finished developing and publishing "K-GAAP Common (including finance and non-finance industries) Taxonomy," in 2007. We investigate what are the main factors in leading these voluntary filers in Korea to adopt the XBRL system considering three incentives (external financing, governance structure and auditing), and whether their earnings quality is better than for the control group.

We find that firms are more likely to adopt XBRL voluntarily when the lower level of firm performance and the more activities of external financing. We also find that the higher portion of foreign investors and the more voluntary filings of XBRL. And also voluntary adopters have a tendency to hire the main auditors, and they disclose their financial information more promptly. For earnings quality, our results show that three kinds of absolute discretionary accruals of voluntary XBRL filers are lower than those of their control group. The results suggest that firms' financial and auditing incentives and foreign shareholders equity influence whether or not to adopt this new financial reporting system, XBRL, voluntarily. We also find that the earnings quality of voluntary XRBL filers is better than for the control group.

Keywords: XBRL, voluntary filer, earnings quality

I. INTRODUCTION

What factors lead firms to adopt a new system voluntarily, and how is the earnings quality of early adopters affected? These are questions we can be faced with when we see a change in paradigm or system. With the rapid growth of internet-based technologies, the financial reporting system also should make fundamental systematic changes, from paper-based to web-based, and from HTML (Hyper Text Markup Language) to XBRL (eXtensible Business Reporting Language) on the web. There always have been early and voluntary participants in these new phases, and they, and their intention to accept the changes rapidly, are of great interest to scholars, especially in connection with financial reporting matters.

In the last few years, there have been moves to improve accounting transparency, especially after serious accounting frauds such as the Enron debacle in 2001. As a part of these efforts, specific ideas for accounting and financial information users came from the information technologies, XML. By using XML, regulators and scholars have designed an internationally-standardized accounting taxonomy system for the information on financial statements, and have called this taxonomy the XBRL system. The XBRL tagging system means that information users world-wide can expect to meet the same characteristics in a specific item, so that those users can retrieve and analyze information with confidence, which in turn improves the efficiency and effectiveness of financial information (No and Boritz, 2008).

The SEC (Securities and Exchange Commission) in the U.S. adopted a voluntary XBRL filing program in 2005, and several developed countries such as the U.K. and Japan have already made, or plan to make XBRL mandatory. To follow this international trend, the FSS (Financial Supervisory Service) in Korea started to carry

out a voluntary program with 251 voluntary filers in August 2006, and XBRL Korea

finished developing and publishing the "K-GAAP Common (including finance and non-

finance industries) Taxonomy" in 2007.

Actually, Korea is the first runner of world financial markets to start this new

financial system in earnest since many countries have tried developing their own

taxonomies of XBRL. In case of US market, SEC still has remained on the stage of trial

and error since March, 2005, for about 2 years and more[180]. So it will be a very

meaningful work to investigate what are the incentives of XBRL voluntary filers and

how about their quality of earnings.

We investigate what factors affect to take part in the voluntary filing program

of XBRL in Korea and whether the earnings quality of these voluntary filers is better

than those of their control group. According to the signaling hypothesis, voluntary

disclosure can reveal or give a good signal of a firm's type or quality (Healy and Palepu,

2001; Ahn, 1995). Also firms have an incentive to reduce their cost of capital (Lang and

Lundholm, 2000; Healy and Palepu, 1993) through information asymmetry, and escape

troublesome litigation or firm-control problems (Skinner, 1994; DeAngelo, 1988). We

consider these intentions, and divide their incentives to join in the voluntary program

into three parts - external financing incentive, governance structure incentive and

auditing incentive.

There have also been many studies of the relationship between earnings quality

and information transparency; the stronger the protection internally or externally, the

more there is suitable disclosure, and the higher quality of earnings (Leuz et al., 2003;

Chung et al., 2003; Gassen and Sellhorn, 2006). The XBRL system can help to increase

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[180] www.fss.or.kr

information transparency through standardized financial information, and also increase the ease with which users such as regulators, auditors, financial institutions and investors can compare firms' information. With regard to these matters, we check the earnings quality of voluntary XBRL files in Korea.

Korea is the leader of XBRL system not only as a participant of this landmark, but as the first-runner of it. Different with other XBRL-related studies, we investigate more varieties of factors which can be the important incentives of voluntary XBRL filing. Moreover, we examine whether XBRL system is useful to ensure the reliability of accounting information, as an ultimate aim. So our results can become a proper precedent of adopting XBRL for other countries. Our study contributes to an understanding of the main characteristics of XBRL voluntary filers in Korea, and checks the quality of their information.

The remainder of our paper is as follows: in section 2, we discuss the background and related prior studies. We describe our research methodologies in section 3, and provide the empirical results in section 4. The last section gives the summary and conclusion of our study.

II. LITERATURE REVIEW AND MOTIVATION

As described by XBRL International, "XBRL is a language for the electronic communication of business and financial data which is revolutionizing business reporting around the world" (www.xbrl.org).[1] Different from the previous financial HTML reporting system, the XBRL system is built up of the XML languages, and has

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[1] There are 17 jurisdictions including Korea, and 9 provisional jurisdictions in XBRL International as of September 2008. Each member must get approval for their own taxonomy from XBRL International.

internationally-standardized tags for each item of financial data. This world-wide tagging system can give information users more convenience and flexibility in searching, retrieving and analyzing information. Users, including investors, regulators and financial institutions, can therefore collect whatever financial information they want, wherever they are, and in whichever jurisdiction they are interested in, because each specific item of financial data has a standardized identifying tag. Pinsker (2003) states that "in XBRL, not only is the information displayed easily, but it also can be manipulated using any hardware or software package", unlike HTML, which can only display information on the internet. This feature of XBRL is of great benefit in reducing the cost of information - the time and effort to obtain, interpret, and convert information to the format a user may want - are hugely reduced.

Premuroso and Bhattacharya (2008) investigated whether early and voluntary filers of financial information in the XBRL format show features of superior corporate governance and firm performance. They compared governance and performance with their control group by using various financial proxies. As the main proxy for corporate governance, they used the *Gov_Score* provided by Institutional Shareholder Services (ISS), as this score can capture each firm's internal and external governance level, and is also related to both firm performance and valuation. They also use six financial variables to observe the differences in operational performance between voluntary XBRL filers and their control firms.[2] They found voluntary XBRL filers show a higher level of corporate governance, have a greater ability to cope with requests for short-term debt redemption, and tend to be larger firms. According to these results, they conclude

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[2] Current ratio, net profit margin, ROE, big-4 auditing firms, leverage, and total assets.

that superior corporate governance works as a catalyst to cause firms to accept and adopt the new financial reporting system, XBRL, early and voluntarily.

Ra et al. (2007) link the effect of XBRL introduction to information asymmetry, and find that the introduction of the initial and partial version of the XBRL system is associated with information asymmetry amongst investors in the KSE (Korea Stock Exchange).[3] In this study, they used bid-ask spreads around the date of annual earnings disclosure as a proxy for information asymmetry, and looked at whether bid-ask spreads lowered after the introduction of the partial XBRL system. They find that the weaker the information environment of a firm - measured by the share of foreign investors, firm size and analyst following - the greater reduction of information asymmetry from introducing XBRL. They report that bid-ask spreads significantly decrease after XBRL adoption and firms with a weaker information environment experience this reduction more strongly.

Hodge and Maines (2004) verify how much improvement there could be in the ability to find firm-specific information, including foot-notes, more easily and exactly if information users could use search-facilitating technology. Using a 2 by 2 matrix empirical design according to whether participants could use search-facilitating tools when they looked for firm information in detail, and whether sample firms offered stock option-related information on their income statements, they observed how participants could acquire and integrate detailed information on firms' stock option compensation. The more complicated and varied the information, the more there was search-facilitating technology, and the more possibilities to find the stock option-related information in the

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[3] From October 2004, KSE developed and provided the KIND-XBRL system with very simplified initial functions, as a kind of testing. Under this system, information users could compare various financial items with market data for a cross-sectional or time-series analysis.

footnotes. Moreover, some participants could integrate the stock option-related information in firms' income statements with the connected information in the footnotes when they used XBRL-enabled search engines, enabling them to use this information in their investment-related decision-making.

There have been several studies about voluntary disclosure. Lang and Lundholm (2000) looked at whether the voluntary disclosure of firm-specific information connected with an equity offering could play a part in reducing information asymmetry. To check this phenomenon, they examined the difference in post-announcement returns between equity-offering firms and matched non-offering firms. Consequently, firms that planned to offer equities augmented their disclosure activity, and this change contributed to creating a large gap between the pre-offering returns of the two groups. Interestingly, however, it seemed that information users in markets regarded this sudden information overflow as a sort of hype, so that firms that over-disclosed prior to equity offerings experienced a steeper downturn in stock returns than those with a consistent disclosure level. Authors interpreted these results as showing that voluntary disclosure at a proper level is very helpful in reducing information asymmetry, but that the increased disclosure activity may lead to negative price adjustments in certain circumstances, although in general it can be a useful way to lower the cost of capital.

In spite of the great benefits of the XBRL system, there have not been many papers studying its effects. This is due in part to the short time since the development and introduction of the XBRL concept, meaning that there was not a large enough sample or time period to verify the effects of its introduction - many developed and developing countries are still constructing their XBRL taxonomies, or waiting to obtain

1127

approval for the finished system. It may therefore be meaningful to examine the feature of the firms who adopt the XBRL system voluntarily, especially in Korea. Korea is one country which has undertaken the international change from a paper-based financial reporting system to an internet-based concept, and towards greater accounting transparency, very rapidly. From 2001, the FSS in Korea has provided an internet-based financial reporting system named DART (Data Analysis, Retrieval and Transfer), and started to adopt an XBRL-based financial reporting from 2007, with the K-GAAP taxonomies. We can lay the ground for studies about the various effects of the XBRL system on information users, and add more evidence concerning the main factors associated with the early and voluntary adoption of XBRL, and the earnings quality of the early filers.

III. Hypotheses Development

3.1. Determinants of the Voluntary Filers of XBRL

3.1.1. Financial Incentives

Lang and Lundholm (2000) point up that the equity-issuing firms may increase their disclosure to reduce information asymmetries and to hype the stocks, and managers more increase their voluntary disclosure frequencies strategically if the time-series of earnings show the positive patterns (Miller, 2002). Miller (2002) also argues that firms with increase earnings growth carry out more disclosure activities.

If firms face with a downturn of earnings, then they may have some incentive to manage earnings to avoid the fall of their actual value. These possibilities of earnings' management can be connected with information asymmetry problems and more

monitoring costs (DeAngelo, 1976; Carslaw, 1988; Bowen et al., 2008). And also if firms have more possibilities of information asymmetry, they have more incentive to signal. That is, they need to reduce their costs of external financing through the activities of disclosure, because the increasing explanation power of intangible factors of firm-value like as growth opportunities make the information gap between the management and outside shareholders, this gap leads to increase their costs of financing (Smith and Watts, 1992; Gaver and Gaver, 1993).

According to these prior studies about the relationship between a firm's financial status and disclosure activities, we can guess that there are positive connections of XBRL voluntary filers with their financial status.

H1: There is a positive relation between the voluntary filers of XBRL and financial incentives.

H1-1: There is a positive relation between the voluntary filers of XBRL and firms' performance.

H1-2: There is a positive relation between the voluntary filers of XBRL and new external financing activities.

3.1.2. Governance Structure Incentive.

Ashbaugh-Skaife et al. (2007) argue that sales growth, portion of inventories, big 4 auditors, and institutional shareholders have a positive correlation with an internal control deficiency report, but that firm size, and a litigious industry, show the opposite effect. Ahn et al. (2007) find that a higher share of foreign investors and a larger firm size encourage voluntary disclosure. There is another paper which studies the

1129

relationship between corporate governance and disclosure practices in Korea: Lee and Sohn (2005) find that the higher the proportion of outside directors, the more equity is held by foreign and institutional investors, the less by management, and the higher the level of disclosure. Ahn and Lee (2005) find out that minority shareholders want to get more information through public disclosure to reduce information asymmetry, but largest shareholders are not likely to prefer or don't need public disclosure more.

More sophisticated investors with analytical skills and information capabilities have strong monitoring, and these investors encourage firms to do their disclosure activities more (Pound, 1988; Jensen and Meckling, 1976). On the basis of these studies about corporate governance and voluntary disclosure, we set up our hypotheses of corporate governance incentives to adopt XBRL system voluntarily.

H2: There is a positive (or negative) relation between the voluntary filers of XBRL and governance structure incentives.

H2-1: There is a positive relation between the voluntary filers of XBRL and the proportion of foreign shareholders' equity.

H2-2: There is a negative relation between the voluntary filers of XBRL and the proportion of major shareholders' equity.

H2-3: There is a positive relation between the voluntary filers of XBRL and the proportion of minor shareholders' equity.

H2-4: There is a positive relation between the voluntary filers of XBRL and **the** proportion of outside directors.

3.1.3. Auditing Incentive

Asthana and Krishnan (2006) study whether audit/non-audit fees and information system fees affect the adoption of a new SEC rule on auditor fee disclosure. They find that the greater the non-audit fees that firms pay, the larger the firms, and the higher the possibility that they adopt the new rule and gain its benefits (as it helps firms to reduce negative perceptions about non-audit services). Kim and Koh (2007) investigate the relationship between audit delay, or an abnormal audit, and earnings management. Earnings management, as measured by discretionary accruals, has a positive correlation with audit delay.

XBRL voluntary filers usually prefer to good quality of auditing (BIG4 auditors) and BIG4 auditors usually carry out their auditing works efficiently and systemically. So they can publish the financial and auditing reports of their clients more promptly (Premuroso and Bhattacharya, 2008; Ahmed, 2003).

H3: There is a positive (negative) relation between the voluntary filers of XBRL and auditing incentives.

H3-1: There is a positive relation between the voluntary filers of XBRL and audit quality.

H3-2: There is a negative relation between the voluntary filers of XBRL and audit delay.

3.2. Earnings Quality

According to Carslaw (1988), if any firm has a higher possibility of earnings' management, then this possibility may give a serious problem of information asymmetry between the management and outside information users. So this information

asymmetry can be a cause of increased cost of capital (Bowen et al., 2008). Then, to reduce their monitoring costs, information users can require firms to do more disclosure activities.

Francis et al. (2008) find out firms with a good quality of earnings show more voluntary disclosure activity than firms with a bad quality of earnings. And also the higher earnings volatility or the higher level of earnings smoothing, and the lower disclosure level or the less voluntary disclosure (Yhim et al., 2003; Lapointe-Antunes et al., 2006). Gassan and Sellhon (2006) state that the early adopters of IFRS show high quality of accruals, and their earnings persistence are also high. We may therefore infer that the earnings quality of early and voluntary adopters is better than for the non-adopters. By reason of the results of above studies, we can hypothesize that there is a positive relation of XBRL voluntary filers with earnings quality measures.

H4: There is a positive relation between the voluntary filers of XBRL and earnings quality.

Ⅳ. RESEARCH METHODOLOGY

On the basis of these prior studies, we divide our logistic regression model to verify the determinants of XBRL voluntary filers into 3 parts by each incentive - 1) financing incentive, 2) governance structure incentive and 3) auditing incentive. We select 16 possible factors for 3 logistic regression models, and 8 factors among them are used as independent variables for 3-incentive based models (firm performance, new external financing for external financing incentive; foreign/major/minor shareholders'

equity, proportion of outside directors for governance structure incentive; audit quality, audit delay for auditing incentive). The rest of them (firm size, cash flow from operating activities, current ratio, change of debt ratio, change of sales, Tobin's Q, listing period, export dependence) are for being used as common factors and controlling firms' characteristics.

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(1) Financial Incentives

$$XBRL=\alpha_0+(\alpha_1 FP+\alpha_2 FIN)$$

$$+\alpha_3 SIZE+\alpha_4 OCFS+\alpha_5 CUR+\alpha_6 CLEV+\alpha_7 CSALES+\alpha_8 TQ+\alpha_9 FY+\alpha_{10} DEXP+\sum\alpha_{11,1\sim j}IND$$
$$+\varepsilon$$

(2) Corporate Governance Incentives

$$XBRL=\beta_0+(\beta_1 MSH+\beta_2 SSH+\beta_3 FSH+\beta_4 OBODRD)$$

$$+\beta_5 SIZE+\beta_6 OCFS+\beta_7 CUR+$$
$$\beta_8 CLEV+\beta_9 CSALES+\beta_{10} TQ+\beta_{11} FY+\beta_{12} DEXP+\sum\beta_{13,1\sim j}IND+\zeta$$

(3) Auditing Incentives

$$XBRL=\gamma_0+(\gamma_0 BIG4+\gamma_0 OARL)$$

$$+\gamma_3 SIZE+\gamma_4 OCFS+\gamma_5 CUR+\gamma_6 CLEV+\gamma_7 CSALES+\gamma_8 TQ+\gamma_9 FY+\gamma_{10} DEXP+\sum\gamma_{11,1\sim j}IND+\tau$$

XBRL: 1 if XBRL voluntary filers, or 0; FP: Firm performance, 1 if $NI_t>NI_{t-1}$, or 0; FIN: New external financing, 1 if [the issue of bonds or equities]$_{t\ or\ t-1}$, or 0; MSH: % of major shareholders; SSH: % of minor shareholders; FSH: % of foreign shareholders; OBODRD: 1 if %(outside directors) > 25 or more, else 0 [181]; BIG4: 4 main audit firms in Korea; OARL: Audit delay, # of calendar days from fiscal year-end to date of the auditor's report; SIZE: Natural logarithm of total assets; OCFS: Cash flow from operating activities, scaled by total assets; CUR: Current ratio, current assets divided by current liabilities; CLEV: Change of debt ratio(DR=total liabilities divided by total assets), $(DR_t-DR_{t-1})/DR_{t-1}$; CSALES: Change of sales, (total sales$_t$ -total sales$_{t-1}$)/total sales$_{t-1}$; TQ: Tobin's Q, {(# of common-shares outstanding*closing price)+total liabilities}/total assets; FY: Listing period on a stock exchange; DEXP: Export dependence, foreign sales/total sales; IND: industry-specific dummies

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[181] According to the Securities and Exchange Law of Korea, listing companies in Korea should organize their board of directors with more than 25% of outside directors.

XBRL is a dummy variable which takes the value of 1, if a firm is a voluntary filer of XBRL. FP is a proxy of firms' performance which takes the value of 1, if a firm's earnings of current fiscal year are larger than those of last year. And a firm tries to finance externally in this year, and then FIN takes 1. 3 governance proxies (MSH, SSH, FSH) are measured the proportions of each major/minor/foreign shareholders' equities and outside directors. Lee and Sohn (2005) find out that corporate governance and firm size affect the firms' decision of voluntary disclosure. Minority shareholders, high leveraged firms (CLEV) also carry out an important role in voluntary disclosure (Ahn and Lee, 2005). Outside directors (OBODRD) is a dummy variable taking the value of 1, when firms fill up the 25% and more of outside directors on their board of directors. Size is a natural logarithm of total assets, and OCFS is a cash flow from operating activities drawing out from the cash flow statement. Current ratio (CUR) is the relative size of current assets to current liabilities, which means firms' liquidities. Tobin's Q (TQ) works as a proxy of firms' growth opportunities, measured by the ratio of the sum of market value and total liabilities to total assets. Chung (2000) refers to the firms' listing period (FY) as a factor of voluntary disclosure of the management's forecasting information. If any other circumstances are same among firms, information users would like to get more information about the firms with a relatively short listing period rather than with a long listing period. This is because the longer listing period of a firm and the more accumulated information to be used by information users. He also argues a firm with higher export dependence (DEXP) has more incentive to disclose voluntarily, but this argument is not supported statistically.

To observe the earnings quality of voluntary filers of the XBRL system, we use regression analysis with matched firms. Our regression models with 3 kinds of DAs and definitions of each variable in model (2) are as follows:

$$\text{ADA (APDA or ACDA)} = \alpha_0 + \alpha_1 XBRL + \alpha_2 SIZE + \alpha_3 LOSS + \alpha_4 CUR + \alpha_5 MSH + \alpha_6 FSH$$
$$+ \alpha_7 TA + \alpha_8 OCFS + \alpha_9 CSALES + \sum \alpha_{10,1 \sim j} ID + \varepsilon$$

ADA: Absolute value of DA from Modified-Jones model; APDA: Absolute value of DA from Performance-Matched model; ACDA: Absolute value of DA from Cash flow model; XBRL: 1 if XBRL voluntary filers, or 0; SIZE: Natural logarithm of total assets; LOSS: 1 if $NI_t<0$, or 0; CUR: Current ratio, current assets divided by current liabilities; MSH: % of major shareholders; FSH: % of foreign shareholders; TA: Total accrual$_{t-1}$, $NI_{t-1} - OCFS_{t-1}$; OCFS: Cash flow from operating activities, scaled by total assets; CSALES: Change of sales, (total sales$_t$ -total sales$_{t-1}$)/total sales$_{t-1}$; ID: Industry-specific dummies;

In many studies about earnings quality management, the estimated discretionary accruals (hereafter, 'DA') have been used as useful proxies for earnings quality or management. There have been a few revised models to estimate DA since Jones (1991); from these, we take the modified-Jones model (Dechow et al., 1995)[182], the performance-matched modified-Jones model (Kothari et al., 2005)[5] and the cash flow model (Dechow and Dichev, 2002)[183].

Generally 7 or 8 firm-specific items turn out to affect to the estimation of DA (Choi, 2005; Cheon, 2003; Cho and Park, 2006), so we need to control these items when we use the estimated number of accruals as a dependent variable - firm size, net loss

[182] $TA_{it} = \beta_0 + \beta_1(1/ASSETS_{it-1}) + \beta_2(\Delta SALES_{it} - \Delta AR_{it}) + \beta_3 PPE_{it} + \upsilon_{it}$

TA_{it}: ($\triangle$current assets-$\triangle$cash and short-term investments -$\triangle$current liabilities +$\triangle$debt in current liabilities - depreciation and amortization)/lagged total assets, Asset$_{it-1}$: lagged total assets, $\triangle SALES_{it}$: change in sales scaled by lagged total assets, PPE$_{it}$: net property, plant and equipment scaled by lagged total assets

Performance-matched DA is a kind of abnormal concept subtracting the DA of matched firms from those of testing firms. Matched firms are selected if they have the nearest ROA$_t$ or ROA$_{t-1}$ to their testing firms.

[183] $TA_{it} = \beta_0 + \beta_1 CF_{it} + \beta_2 CF_{it-1} + \beta_3 CF_{it+1} + \upsilon_{it}$

ACC$_{it}$: (earnings taken from cash flow statements – cash flow from operations)/averaged total assets , CF$_{it}$/ CF$_{it-1}$/ CF$_{it+1}$: cash flow from operation of each term of t-1/t/t+1 scaled by averaged total assets

dummy, current ratio, major and foreign shareholders' equity holdings, lagged total accruals, cash flow from operating activities, and change of sales. According to the political cost hypothesis, firms with a large size have an incentive to reduce their reported earnings (Watts & Zimmerman, 1986). Other internal factors possible to affect the level or direction of discretionary accruals are profitability, current ratio and cash flow from operating activities. Because the downturn of earnings growth or loss of firms leads directly into the fall of their actual value, it is possible for firms with negative earnings to tolerate their earnings management (DeAngelo, 1986). DeFond and Jiambalvo (1994) point out that the higher debt dependence, the more possibility of earnings management. So firms with an enough ability to discharge their liabilities have less incentive to manage their earnings. And also there is a negative relation of accrual to cash flow due to matching principle and different timing of actual cash inflow or outflow (Dechow, 1994). Major and Foreign shareholders' equity are on the basis of information asymmetry problem, considering that the higher information asymmetry and the greater potential of earnings management. Foreign investors generally require the higher level of reliability of firms' financial information, and owner dominated companies have less incentives of earnings management since the dominant shareholders already have a enough grip of the firm's situation (Carslaw, 1988).Along with these variables, we also include industry to capture the industry-specific effects which we cannot control just with the special items in the two models.

Ⅴ. EMPIRICAL RESULTS

5.1. Sample Selection

We obtained 488 sample firms, including matched firms, from the firms listed on the KSE (Korea Stock Exchange) in 2006. Amongst these sample firms, the total

number of voluntary XBRL filers is 122, and we took the 366 matched samples[184] on

the basis of industry and firm size, to compare them with the voluntary XBRL filers.

Table 1 shows the numbers of total sample firms and the XBRL filers by each industry.

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Insert Table 1 about here
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5.2 Descriptive Statistics

To gain a good grasp of the characteristics of the variables in our two models,

we first undertook a descriptive analysis. The descriptive statistics for the 22 variables -

XBRL, FP, FIN, MSH, SSH, FSH, OBODRD, BIG4, OARL, SIZE, OCFS, CUR,

CLEV, CSALES, TQ, FY, DEXP, ADA, APDA, ACDA, LOSS, TA - are provided in

Table 2[185]

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Insert Table2 about here
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As both of the dependent and independent variables, almost statistics for XBRL

have the value of 0 except maximum and 3'rd quartile numbers (=1). This stands to

reason, because our matched sample is about three times the size of the number of

voluntary filers. In our sample firms, there are more firms with decreased net income,

compared with lagged net income, than those with increased one (FP). Connected with

these increasing pattern of performance, we can also find out many firms are suffering

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[184] Zmijewski (1984) investigated how to decrease two possible biases, choice-based sample biases and sample selection biases. According to his research, we collect out target firms (XBRL voluntary filers) and their control samples in the ratio of 1:2.5 (approximately 1:3).

[185] To avoid the effects of extreme values, we truncated variables on the basis of 5% and 95% of each distribution.

the loss of their performance (LOSS). And also our sample firms show a tendency more to raise their new activities of external financing (FIN).

From an angle of governance structure incentive, the each proportion of the major and minor shareholders' equities is 33.3% and 36.8%, and on average, they are invested from foreign shareholders for about 11.5% of their total capital. And we can see that there are not many firms to call in more than 25% of outside directors (OBODRD). In case of auditing incentives, about 63.7% firms have their auditing from BIG4 accounting firms and the period of time from fiscal year-end to auditor's reporting have the range between cover a range between 20 to 61 days with the mean-audit-delay of about 39 days.

Almost firms tend to reduce their dependence of liabilities, and simultaneously secure the short-term capacity of redemption. The mean of Tobin's Q ratio is 1.102, so we can guess it rarely for firms to be valued over their book value. The levels of two dependent variables for regression analyses (ADA and ACDA) look almost alike, but performance-matched DA (APDA) shows a bit different pattern. That is, the level of abnormal DA is higher than another two variables of DA.

5.3. T-test and correlation Analysis

The first thing we want to establish is what factors really make a difference in the choice of whether or not firms participate in the XBRL voluntary filing program and how about the earnings' quality of the XBRL voluntary filers. Before we look for them using logistic and regression analyses, we can make a sketch of the differences between two groups. In Table 3, XBRL voluntary filers hold less continuous pattern of earnings' growth (FP, t=-2.170[**]) and try more externally financing than their control group. If a

firm shows a negative score of earnings or a drop of earnings, then this leads directly into the fall of their actual value so that this firm has an incentive to overlook earnings' management (DeAngelo, 1976). Anyway, the more chances of earnings' management mean the higher possibilities of information asymmetry between the management and outside information users (Carslaw, 1988), and the more cost of capital (Bowen et al., 2008). Accordingly, the higher tendency of earnings' growth of XBRL voluntary filers can be linked with the less cost of capital due to the reduce information asymmetry, so that XBRL voluntary filers is likely to do more external financing than non-filers (FIN, t=2.740[**]). But, none the less, their dependence on total liabilities shows a declining pattern different with matched firms (CLEV, t=-0.110[*]).

There are an indirect evidence for the rapidity and efficiency of the formation and verification of financial information. On average, XBRL voluntary filers put about 37 days in preparing their auditor's report, and have about 2.4 days-difference significantly with their matched firms (OARL, t=-1.910[*]). But, even though their verifying process of financial information is less delayed, it may be meaningless if information users can't use the information with confidence of good quality of it. This matter can be ascertained by 3 proxies of earnings quality – ADA, APDA, ACDA. Like as prior studies (Francis et al., 2008; Yhim et al., 2003; Lapointe-Antunes et al., 2006), XBRL voluntary filers also show the lower levels of DAs (that is, the higher levels of earnings quality in a general meaning) consistently in 3 proxies than their matched group, and all of these are statistically significant. So we can see the more rapid preparation of audit report and the higher quality of earnings of XBRL voluntary filers. We can guess that these results are related to the size of firms and their auditors. XBRL voluntary filers usually prefer to BIG4 auditors and show a tendency to a larger firm

size and a higher portion of foreign investors (Premuroso and Bhattacharya, 2008; Ahn et al., 2007; Ahn and Lee, 2005). In general, foreign or institutional investors are more sophisticated, but have less possibility to access to the information of domestic firms easily and sufficiently. To reduce their monitoring costs, they can put pressure on firms to disclosure more actively (Jensen and Meckling, 1976; Lee and Sohn, 2005).

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Insert Table 3 about here

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Table 4 shows the Pearson correlation coefficients among variables for multivariate analyses – logistic and regression analyses. In panel A for variables included in our logistic regression model, 6 variables (FP, FIN, FSH, BIG4, OARL, SIZE, TQ) show the same pattern with the results of t-test to the dependent variable, XBRL. XBRL filers have the higher preference to make a contract with the big auditors for their financial information, and the directions of FP and FIN of XBRL voluntary filers seem to have an opposite pattern. And also this pattern is connected with a negative correlation between FP and FIN. This reverse correlation of FP and FIN can be proved circumstantially by the relationship of them with cash flow (OCFS) or liquidity (CUR). So we guess that more external financing activities as well as less continuous earnings growth are the distinctive features of XBRL voluntary filers.

We also present the result of correlation analysis for our second model of regression in panel B. First of all, our three proxies for earnings quality (ADA, APDA, ACDA) have significant relationship with each other. Though APDA is a kind of abnormal-DA concept which extracts industry-mean DA from each firm's DA, these positive and strong relationships mean that our three proxies have the same characters.

Various prior studies refer to the positive relationship between earnings quality and voluntary disclosure (Francis et al, 2008; Yhim et al., 2003; Lapointe-Antunes et al., 2006). Like the preceding results of t-test, three DAs have a reverse correlation with XBRL voluntary filers dummy, that is, the more voluntary filers of XBRL and the higher earnings quality. And also, loss firms have the stronger incentive to manage earnings to avoid reporting their losses or earnings decreases (Burgsthahler and Dichev, 1997).

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5.4. Logistic Analysis: main factors in adopting XBRL voluntarily

To establish the main factors in the voluntary adoption of XBRL the possible variables, we undertook a logistic analysis from three different angles (financial incentives, governance structure incentives and auditing incentives. The possible variables were included in our logistic regression model according to the results of prior studies, but we carried out a sensitivity analysis on the variables from firm performance (= continuous earnings growth, FP)to audit delay (OARL) in order to check their validity and endogeneity.

The results of the logistic analysis tell us that five items – from two financial incentives (firm performance, FP; new external financing, FIN), one governance incentive (foreign shareholders' equity, FSH), and two auditing incentives (main audit firms in Korea, BIG4; and audit delay, OARL) – have significant influences on the choice of voluntary XBRL filers. But there are not any factors to affect the firms' decisions of XBRL adoption in the view of governance structure incentives except

foreign shareholders' equity (FSH). And 3 factors (firm size, SIZE; decreased debt ratio, CLEV; Tobin's Q, TQ) among control variables act as the common factors which encourage firms to join the voluntary program of XBRL filing.

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Insert Table 5 about here
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Earnings surprise can be used as a means of private information events, and users with private information encourage a voluntary disclosure to acquire benefits from their private information (Brown et al., 2008). And firms with increased earnings performance carry out more disclosure activities including their earnings announcements (Miller, 2002). But not matched with these prior studies, the smaller portion of the earnings growth (or negative earnings surprises) and the more voluntary filing to XBRL system (FP, -0.520[**]). Firms increase their disclosure activities to reduce the cost of capital for external financing due to information asymmetry (Carslaw, 1988; Bowen et al., 2008), and these stories are matched with the result of logistic analysis to XBRL voluntary filers (FIN, 0.177[**]).

In general, main auditors like as Big 4 have more incentives to compel disclosure standards more strictly and extensively for their reputation (Wang et al., 2008). These allow them to monitor and lead firms to increased voluntary disclosure, matched with our result from a viewpoint of auditing incentives (BIG4, 0.445[*]). It looks a matter of course for firms with a reason of audit delay or reporting lag to hesitate about taking part in the voluntary filing program of XBRL (OARL, -0.016[**]). Moreover, Block holders want to reduce their monitoring cost (Sengupta, 2004), and large-sized firms or firms with a big audit firm have an incentive or capacity to report their financial

information more promptly (Ahmed, 2003). Negative correlations of audit delay with relative measures (MSH, BIG4, SIZE) in Table 4 back up what characteristics of firms with a delayed-reporting pattern might be and through what path they reach the less-voluntary-filing-decision of XBRL.

Not like various prior studies, governance-structure measures don't affect whether or not to join in the voluntary program of XBRL filing except foreign shareholders equity (FSH). Firms with the strengthened monitoring activities of independent corporate boards are likely to perform suitable disclosure-related activities, ensuring that firms try to communicate with investors and give good signals of transparency (Cai et al., 2006; Ajinkya et al., 2005; Gul and Leung, 2004; Forker, 1992; Eng and Mak, 2003; Fama, 1980). Outside investors force the higher level of firms' disclosure to reduce information asymmetry (Jensen and Meckling, 1976). The higher portions of foreign shareholders encourage firms to adopt a new reporting system, and this is statistically significant (FSH, 1.102[*]). In our cases, only two governance proxies (foreign shareholders, FSH; main shareholders' equity, MSH[186]) support the results of prior studies.

Lastly, the statistics of change of debt ratio (CLEV) say that the more increased debt ratio and the lower possibilities of XBRL voluntary filing of firms. These results show different aspects from prior studies, which mention that highly leveraged firms disclose more financial information to reduce their creditors' monitoring costs and convince of their debt solvencies (Premuroso and Bhattacharya, 2008; Jensen and Meckling, 1976).

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[186] Block shareholders have no effect on corporate disclosure activities or the information quality of firms, especially in Korea (Cheon, 2003; Ahn and Lee, 2005).

To sum up all the results of the logistic analysis, firm performance (FP), new external financing (FIN), foreign shareholders equity (FSH) and main audit firms in Korea (BIG4) lead a firm to take up the XBRL system voluntarily. But if firms usually show not a prompt disclosure pattern (OARL), then they are further away from the participation of XBRL voluntary program.

5.5. Regression Analysis: earnings quality of voluntary XBRL filers

There have been several researches that show that early adopters of a new accounting regulation or voluntary disclosers of information show good quality of earnings, or that good earnings quality will induce firms to make voluntary disclosures (Gassan and Sellhon, 2006; Francis et al., 2008). Following these results, our second research interest in this paper is whether voluntary XBRL filers really show a high quality of earnings; the results of the regression analysis to check this are shown in Table 6.

The explanatory powers of the regression analyses of the dependent variables (ADA, APDA and ACDA) are about form 7% and 8%. The all F-statistics show significant values at the 1% level, meaning each variable in the regression model is an explanatory factor for three dependent variables. Francis el al. (2008) says that firms with good earnings quality carry out more broad activities of disclosure, voluntarily. The dummy variables for our primary focus, XBRL, exhibit negative coefficients for each (-0.006 to -0.013), and their coefficients are significant at the 1% or 5% significance level - that is, the earnings quality of voluntary XBRL filers is better than that of their control group.

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Insert Table 6 about here

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In the case of foreign shareholders equity (FSH) and lagged total accrual (TA), these items have the negative relations to absolute discretionary accruals (ADA, APDA and ACDA) as various prior studies. According to the efficient monitoring theory, more sophisticated investors with analytical skills and information capabilities have strong monitoring power so that they suppress a firm's incentive to manage earnings (Pound, 1988). Different with prior studies, major shareholders (MSH) fulfill their monitoring role very strongly. Dechow (1994) said that there is a negative relation between accrual and cash flow caused by different timing of actual cash flow from accounting numbers. But our results of cash flow (OCFS) are not consistent across three regression models. Especially the direction with Modified-Jones DA (ADA) supports the story of above, but other two models are not likely that. On the whole, other control variables show the consistent patterns in their directions and significances.

Ⅵ. CONCLUSION

We investigated what factors affect firms' choices to join in the voluntary program of XBRL filing in Korea, and whether XBRL voluntary filers' earnings quality are better than for their control group. We selected firm-specific variables for our empirical model, with regard both to three kinds of firms' incentives to participate in the voluntary program, and to the control matters of firms' characteristics. Considering the proper function of the XBRL system within the information process, we also checked the earnings quality of voluntary XBRL filers in Korea.

Our empirical results show that voluntary XBRL adopters are more likely to have a lower level of firm performance, that is, continuous earnings growth. The results also show that voluntary XBRL adopters are more apt to do their external financing activities. The each relationship of the likelihood of early adoption with main auditors and audit report lag suggests that auditors can perform their work in a more efficient manner with the XBRL system. And also foreign shareholders, the only significant factor among governance proxies, play an important role in firms' voluntary adoption of XBRL system.

We also examined whether the earnings quality of voluntary XBRL filers is better than the control group of companies which do not participate in the voluntary program. The empirical results show that the absolute discretionary accruals of XBRL filers computed with the modified-Jones Model, the performance-adjusted modified-Jones model and cash flow model are lower than those of the control group, suggesting that XBRL systems enhance the quality of accounting information. Based on our empirical findings, we conclude, with caution, that firms' internal and external controls of financial information are important in accepting this new financial reporting system.

Future study may examine whether XBRL systems reduce the cost of capital or improve market efficiency by providing better quality accounting information to the financial markets. Our study contributes to building the foundations of further extended studies about the XBRL system.

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TABLE 1
Sample Distribution by Industries

Industry description	Voluntary Filers of XBRL	Matched Pair Group (1:3 Matching)
Services	8	24
Food products	11	33
Non-metallic products	4	12
Chemical products	38	114
Metallic products	23	69
Electronic, information and communication equipment	15	45
Transportation	9	27
Electricity, gas, steam and water supply	2	6
Construction	4	12
Retail	8	24
	122	366

TABLE 2
Descriptive Statistics

Variables	N	Mean	Median	Min	Q1	Q3	Max
XBRL	488	0.261	0.000	0.000	0.000	1.000	1.000
FP	488	0.485	0.000	0.000	0.000	1.000	1.000
FIN	488	0.553	1.000	0.000	0.000	1.000	1.000
MSH	488	0.333	0.321	0.059	0.187	0.458	0.681
SSH	488	0.368	0.362	0.134	0.248	0.476	0.668
FSH	488	0.115	0.048	0.000	0.004	0.189	0.471
OBODRD	488	0.370	0.000	0.000	0.000	1.000	1.000
BIG4	488	0.637	1.000	0.000	0.000	1.000	1.000
OARL	488	38.861	40.000	20.000	27.000	48.000	61.000
SIZE	488	19.290	19.056	17.412	18.332	20.009	22.236
OCFS	488	0.045	0.045	-0.114	0.003	0.092	0.184
CUR	488	1.893	1.454	0.535	0.999	2.295	5.638
CLEV	488	-0.007	-0.005	-0.315	-0.089	0.073	0.339
CSALES	488	0.034	0.029	-0.284	-0.067	0.120	0.441
TQ	488	1.102	0.942	0.569	0.778	1.276	2.451
FY	488	35.682	36.000	6.000	27.500	46.000	60.000
DEXP	488	0.008	0.000	0.000	0.000	0.000	0.117
ADA	488	0.054	0.039	0.003	0.016	0.079	0.180
APDA	488	0.072	0.053	0.000	0.011	0.107	0.264
ACDA	488	0.059	0.043	0.003	0.016	0.086	0.206
LOSS	488	0.199	0.000	0.000	0.000	0.000	1.000
TA	488	-0.025	-0.021	-0.172	-0.065	0.022	0.107

XBRL: 1 if XBRL voluntary filers, or 0; FP: Firm performance, 1 if $NI_t > NI_{t-1}$, or 0; FIN: New external financing, 1 if [the issue of bonds or equities]$_{t \text{ or } t-1}$, or 0; MSH: % of major shareholders; SSH: % of minor shareholders; FSH: % of foreign shareholders; OBODRD: 1 if %(outside directors) > 25 or more, else 0; BIG4: 4 main audit firms in Korea; OARL: Audit delay, # of calendar days from fiscal year-end to date of the auditor's report; SIZE: Natural logarithm of total assets; OCFS: Cash flow from operating activities, scaled by total assets; CUR: Current ratio, current assets divided by current liabilities; CLEV: Change of debt ratio(DR=total liabilities divided by total assets), $(DR_t - DR_{t-1})/DR_{t-1}$; CSALES: Change of sales, (total sales$_t$ -total sales$_{t-1}$)/total sales$_{t-1}$; TQ: Tobin's Q, {(# of common-shares outstanding*closing price)+total liabilities}/total assets; FY: Listing period on a stock exchange; DEXP: Export dependence, foreign sales/total sales; ADA: Absolute value of DA from Modified-Jones model; APDA: Absolute value of DA from Performance-matched model; ACDA: Absolute value of DA from cash flow model; Loss: 1 if $NI_t < 0$, or 0; TA: Total accrual$_{t-1}$, $NI_{t-1} - OCFS_{t-1}$

TABLE 3
Univariate Tests Results: Voluntary Filers Compared to Matched Pair Group

	Voluntary filers of XBRL	Matched Pair Group (1:3 Matching)	t	
FP	0.402	0.514	-2.170	**
FIN	0.632	0.513	2.740	**
MSH	0.346	0.328	0.950	
SSH	0.360	0.371	-0.770	
FSH	0.128	0.091	1.980	*
OBODRD	0.402	0.358	0.840	
BIG4	0.705	0.613	1.880	*
OARL	37.082	39.488	-1.910	*
SIZE	19.452	19.020	1.827	*
OCFS	0.046	0.044	0.190	
CUR	1.966	1.867	0.700	
CLEV	-0.009	-0.006	-0.110	*
CSALES	0.028	0.036	-0.450	
TQ	1.192	1.005	1.950	*
FY	35.516	35.740	-0.150	
DEXP	0.011	0.007	1.330	
ADA	0.045	0.057	-2.670	***
APDA	0.058	0.069	-1.810	**
ACDA	0.051	0.063	-2.150	**
LOSS	0.230	0.188	0.950	
TA	-0.023	-0.026	0.360	

Notes: ***/**/* represent statistical significances at the 0.01/0.05/0.10 level. FP: Firm performance, 1 if $NI_t > NI_{t-1}$, or 0; FIN: New external financing, 1 if [the issue of bonds or equities]$_{t \text{ or } t-1}$, or 0; MSH: % of major shareholders; SSH: % of minor shareholders; FSH: % of foreign shareholders; OBODRD: 1 if %(outside directors) > 25 or more, else 0; BIG4: 4 main audit firms in Korea; OARL: Audit delay, # of calendar days from fiscal year-end to date of the auditor's report; SIZE: Natural logarithm of total assets; OCFS: Cash flow from operating activities, scaled by total assets; CUR: Current ratio, current assets divided by current liabilities; CLEV: Change of debt ratio(DR=total liabilities divided by total assets), $(DR_t - DR_{t-1})/DR_{t-1}$; CSALES: Change of sales, (total sales $_t$ -total sales$_{t-1}$)/total sales$_{t-1}$; TQ: Tobin's Q, {(# of common-shares outstanding*closing price)+total liabilities}/total assets; FY: Listing period on a stock exchange; DEXP: Export dependence, foreign sales/total sales; ADA: Absolute value of DA from Modified-Jones model; APDA: Absolute value of DA from Performance-matched model; ACDA: Absolute value of DA from cash flow model; Loss: 1 if $NI_t<0$, or 0; TA: Total accrual$_{t-1}$, $NI_{t-1} - OCFS_{t-1}$

TABLE 4
Pearson Correlation Analysis

Panel A. Logistic Model: Determinants of Voluntary Filers of XBRL

	XBRL	FP	FIN	MSH	SSH	FSH	OBODRD	BIG4	OARL	SIZE	OCFS	CUR	CLEV	CSALES	TQ	FY	DEXP
XBRL	1.000	-0.099	0.034	0.045	-0.035	0.054	0.039	0.084	-0.088	0.013	0.009	0.033	-0.005	-0.020	0.012	-0.007	0.069
		0.032	0.057	0.327	0.450	0.047	0.396	0.069	0.056	0.078	0.853	0.481	0.917	0.067	0.080	0.883	0.139
FP		1.000	-0.083	-0.006	0.011	0.045	0.063	-0.103	-0.079	-0.016	0.187	0.037	-0.125	0.202	0.125	-0.053	0.012
			0.074	0.901	0.815	0.332	0.175	0.026	0.087	0.735	<.0001	0.422	0.007	<.0001	0.007	0.251	0.788
FIN			1.000	-0.146	0.191	0.014	0.047	0.063	0.011	0.248	-0.180	-0.292	0.101	0.087	0.095	0.108	-0.004
				0.002	<.0001	0.763	0.312	0.172	0.804	<.0001	<.0001	<.0001	0.029	0.061	0.039	0.020	0.935
MSH				1.000	-0.505	-0.060	-0.101	0.030	-0.168	-0.012	0.149	0.035	-0.007	-0.008	-0.099	-0.015	-0.017
					<.0001	0.194	0.029	0.516	0.000	0.789	0.001	0.455	0.888	0.855	0.033	0.748	0.708
SSH					1.000	-0.100	0.033	-0.086	0.163	-0.091	-0.279	-0.120	0.016	-0.022	0.195	-0.004	0.037
						0.031	0.476	0.062	0.000	0.049	<.0001	0.009	0.727	0.639	<.0001	0.935	0.428
FSH						1.000	0.105	0.287	-0.220	0.527	0.305	0.086	-0.030	0.036	0.157	-0.004	-0.016
							0.023	<.0001	<.0001	<.0001	<.0001	0.064	0.511	0.436	0.001	0.937	0.735
OBODRD							1.000	0.017	0.000	0.230	0.032	-0.084	0.031	-0.016	0.049	0.028	0.017
								0.715	0.994	<.0001	0.484	0.070	0.501	0.723	0.289	0.545	0.715
BIG4								1.000	-0.223	0.349	0.126	-0.033	-0.006	0.031	-0.003	-0.013	-0.107
									<.0001	<.0001	0.007	0.471	0.905	0.503	0.944	0.773	0.021
OARL									1.000	-0.272	-0.208	-0.129	0.084	-0.001	-0.017	0.109	0.068
										<.0001	<.0001	0.005	0.071	0.991	0.706	0.018	0.139
SIZE										1.000	0.251	-0.231	0.017	0.137	0.017	0.081	-0.012
											<.0001	<.0001	0.707	0.003	0.716	0.081	0.801
OCFS											1.000	0.125	-0.103	0.180	0.078	-0.086	-0.083
												0.007	0.026	<.0001	0.093	0.063	0.073
CUR												1.000	-0.203	-0.097	-0.073	-0.009	0.062
													<.0001	0.036	0.114	0.841	0.181
CLEV													1.000	0.199	-0.023	0.035	-0.035
														<.0001	0.626	0.450	0.454
CSALES														1.000	0.219	-0.036	-0.095
															<.0001	0.443	0.041
TQ															1.000	-0.201	-0.043
																<.0001	0.351
FY																1.000	0.024
																	0.598
DEXP																	1.000

1155

XBRL: 1 if XBRL voluntary filers, or 0; FP: Firm performance, 1 if $NI_t > NI_{t-1}$, or 0; FIN: New external financing, 1 if [the issue of bonds or equities]$_{t \text{ or } t-1}$, or 0; MSH: % of major shareholders; SSH: % of minor shareholders; FSH: % of foreign shareholders; OBODRD: 1 if %(outside directors) > 25 or more, else 0; BIG4: 4 main audit firms in Korea; OARL: Audit delay, # of calendar days from fiscal year-end to date of the auditor's report; SIZE: Natural logarithm of total assets; OCFS: Cash flow from operating activities, scaled by total assets; CUR: Current ratio, current assets divided by current liabilities; CLEV: Change of debt ratio(DR=total liabilities divided by total assets), $(DR_t - DR_{t-1})/DR_{t-1}$; CSALES: Change of sales, (total sales $_t$ -total sales$_{t-1}$)/total sales$_{t-1}$; TQ: Tobin's Q, {(# of common-shares outstanding*closing price)+total liabilities}/total assets; FY: Listing period on a stock exchange; DEXP: Export dependence, foreign sales/total sales

Panel B. Regression Model: Earnings Quality of Voluntary Filers of XBRL

	XBRL	MSH	FSH	SIZE	OCFS	CUR	CSALES	ADA	APDA	ACDA	LOSS	TA
XBRL	1.000	0.045	0.054	0.013	0.009	0.033	-0.020	-0.110	-0.034	-0.053	0.046	0.016
		0.327	0.047	0.078	0.853	0.481	0.067	0.017	0.067	0.049	0.323	0.729
MSH		1.000	-0.060	-0.012	0.149	0.035	-0.008	-0.046	-0.041	-0.126	-0.018	-0.068
			0.194	0.789	0.001	0.455	0.855	0.323	0.381	0.006	0.700	0.141
FSH			1.000	0.527	0.305	0.086	0.036	-0.064	-0.003	-0.065	-0.151	-0.040
				<.0001	<.0001	0.064	0.436	0.164	0.954	0.163	0.001	0.392
SIZE1				1.000	0.251	-0.231	0.137	-0.143	0.004	-0.172	-0.231	0.049
					<.0001	<.0001	0.003	0.002	0.939	0.000	<.0001	0.295
OCFS					1.000	0.125	0.180	-0.228	-0.075	-0.114	-0.444	-0.410
						0.007	<.0001	<.0001	0.107	0.013	<.0001	<.0001
CUR						1.000	-0.097	-0.022	-0.055	0.105	-0.104	0.020
							0.036	0.640	0.232	0.023	0.024	0.667
CSALES							1.000	0.012	0.054	0.127	-0.221	0.104
								0.790	0.241	0.006	<.0001	0.024
ADA								1.000	0.306	0.289	0.197	0.040
									<.0001	<.0001	<.0001	0.392
APDA									1.000	0.085	0.139	0.003
										0.067	0.003	0.955
ACDA										1.000	0.062	0.046
											0.183	0.325
LOSS											1.000	-0.331
												<.0001
TA												1.000

ADA: Absolute value of DA from Modified-Jones model; APDA: Absolute value of DA from Performance-matched model; ACDA: Absolute value of DA from cash flow model; XBRL: 1 if XBRL voluntary filers, or 0; SIZE: Natural logarithm of total assets; Loss: 1 if $NI_t < 0$, or 0; CUR: Current ratio, current assets divided by current liabilities; MSH: % of major shareholders; FSH: % of foreign shareholders; TA: Total accrual$_{t-1}$, $NI_{t-1} - OCFS_{t-1}$; OCFS: Cash flow from operating activities, scaled by total assets; CSALES: Change of sales, (total sales $_t$ -total sales$_{t-1}$)/total sales$_{t-1}$

TABLE 5
Logistic Analysis: Dependent var: XBRL(1,0)

Panel A. Financial Incentives

Var.	Estimate	Wald ChiSq	Pr > ChiSq	Estimate	Wald ChiSq	Pr > ChiSq	Estimate	Wald ChiSq	Pr > ChiSq
Intercept	-1.512	17.650	0.000	-1.355	15.530	0.000	-2.056	18.225	0.000
FP	-0.520	5.086	0.024	-0.510	4.916	0.027			
FIN	0.177	8.544	0.015				0.145	7.371	0.024
SIZE	0.034	10.138	0.001	0.021	10.052	0.008	0.050	9.290	0.009
OCFS	0.524	0.099	0.753	0.776	0.226	0.635	-0.055	0.001	0.973
CUR	0.043	0.239	0.625	0.055	0.412	0.521	0.044	0.256	0.613
CLEV	-0.133	6.032	0.058	-0.144	7.038	0.045	0.119	7.027	0.070
CSALES	0.137	0.038	0.846	0.112	0.026	0.873	-0.184	0.074	0.786
TQ	0.031	9.018	0.009	0.011	9.002	0.010	-0.007	9.001	0.010
FY	-0.002	0.070	0.792	-0.003	0.121	0.729	-0.002	0.048	0.826
DEXP	5.390	2.266	0.132	5.404	2.284	0.131	5.039	2.018	0.155
ID		Included			Included			Included	
Likelihood Ratio		145.090	<.0001		132.410	<.0001		136.550	<.0001

XBRL: 1 if XBRL voluntary filers, or 0; FP: Firm performance, 1 if $NI_t > NI_{t-1}$, or 0; FIN: New external financing, 1 if [the issue of bonds or equities]$_{t \text{ or } t-1}$, or 0; MSH: % of major shareholders; SSH: % of minor shareholders; FSH: % of foreign shareholders; OBODRD: 1 if %(outside directors) > 25 or more, else 0; BIG4: 4 main audit firms in Korea; OARL: Audit delay, # of calendar days from fiscal year-end to date of the auditor's report; SIZE: Natural logarithm of total assets; OCFS: Cash flow from operating activities, scaled by total assets; CUR: Current ratio, current assets divided by current liabilities; CLEV: Change of debt ratio(DR=total liabilities divided by total assets), $(DR_t - DR_{t-1})/DR_{t-1}$; CSALES: Change of sales, (total sales $_t$ -total sales$_{t-1}$)/total sales$_{t-1}$; TQ: Tobin's Q, {(# of common-shares outstanding*closing price)+total liabilities}/total assets; FY: Listing period on a stock exchange; DEXP: Export dependence, foreign sales/total sales

Panel B. Corporate Governance Incentives

Var.	Estimate	Wald ChiSq	Pr > ChiSq	Estimate	Wald ChiSq	Pr > ChiSq	Estimate	Wald ChiSq	Pr > ChiSq	Estimate	Wald ChiSq	Pr > ChiSq	Estimate	Wald ChiSq	Pr > ChiSq
Intercept	-0.668	16.093	0.000	-2.182	13.359	0.000	-1.742	10.866	0.000	-0.749	14.125	0.000	-1.671	15.802	0.000
MSH	0.684	0.894	0.344	0.586	0.874	0.350									
SSH	-0.034	0.001	0.970				-0.475	0.356	0.551						
FSH	1.102	4.427	0.072							1.013	5.224	0.069			
OBODRD	0.223	0.944	0.331										0.190	0.701	0.402
SIZE	0.041	3.150	0.099	0.041	3.206	0.065	0.037	4.167	0.028	0.022	3.042	0.084	0.022	4.055	0.041
OCFS	-0.447	0.072	0.789	-0.072	0.002	0.964	-0.081	0.002	0.961	-0.151	0.009	0.926	0.171	0.011	0.915
CUR	0.029	0.111	0.740	0.054	0.397	0.529	0.049	0.322	0.570	0.032	0.131	0.717	0.054	0.408	0.523
CLEV	-0.021	-5.800	0.008	-0.102	6.020	0.004	-0.095	5.017	0.010	-0.063	5.008	0.013	-0.077	4.011	0.015
CSALES	-0.068	0.010	0.922	-0.195	0.082	0.775	-0.211	0.096	0.757	-0.133	0.038	0.846	-0.163	0.058	0.810
TQ	0.072	9.088	0.001	0.003	10.000	0.001	0.007	9.501	0.001	0.075	11.100	0.001	0.039	13.028	0.000
FY	-0.002	0.069	0.792	-0.002	0.066	0.797	-0.002	0.071	0.790	-0.002	0.077	0.782	-0.002	0.094	0.759
DEXP	5.083	2.038	0.153	5.068	2.038	0.153	5.077	2.048	0.152	5.081	2.051	0.152	5.021	2.003	0.157
ID		Included			Included			Included			Included			Included	
Likelihood Ratio		211.360	<.0001		208.450	<.0001		218.470	<.0001		198.780	<.0001		202.660	<.0001

XBRL: 1 if XBRL voluntary filers, or 0; FP: Firm performance, 1 if $NI_t > NI_{t-1}$, or 0; FIN: New external financing, 1 if [the issue of bonds or equities]$_{t \text{ or } t-1}$, or 0; MSH: % of major shareholders; SSH: % of minor shareholders; FSH: % of foreign shareholders; OBODRD: 1 if %(outside directors) > 25 or more, else 0; BIG4: 4 main audit firms in Korea; OARL: Audit delay, # of calendar days from fiscal year-end to date of the auditor's report; SIZE: Natural logarithm of total assets; OCFS: Cash flow from operating activities, scaled by total assets; CUR: Current ratio, current assets divided by current liabilities; CLEV: Change of debt ratio(DR=total liabilities divided by total assets), $(DR_t - DR_{t-1})/DR_{t-1}$; CSALES: Change of sales, (total sales $_t$ -total sales$_{t-1}$)/total sales$_{t-1}$; TQ: Tobin's Q, {(# of common-shares outstanding*closing price)+total liabilities}/total assets; FY: Listing period on a stock exchange; DEXP: Export dependence, foreign sales/total sales

Panel C. Auditing Incentives

Var.	Estimate	Wald ChiSq	Pr > ChiSq	Estimate	Wald ChiSq	Pr > ChiSq	Estimate	Wald ChiSq	Pr > ChiSq
Intercept	-0.279	8.018	0.001	-1.090	9.331	0.001	-0.259	10.016	0.000
Big4	0.445	3.173	0.075	0.493	3.976	0.046			
OARL	-0.016	3.921	0.011				-0.018	3.145	0.063
SIZE	0.063	4.403	0.003	0.024	5.062	0.001	0.013	4.020	0.009
OCFS	-0.100	0.004	0.951	0.116	0.005	0.943	-0.068	0.002	0.966
CUR	0.016	0.035	0.851	0.042	0.236	0.628	0.025	0.080	0.777
CLEV	-0.131	7.032	0.006	-0.083	8.013	0.001	-0.164	6.051	0.008
CSALES	-0.093	0.019	0.892	-0.145	0.045	0.832	-0.151	0.049	0.825
TQ	0.019	13.006	0.001	0.016	10.005	0.001	0.027	12.013	0.001
FY	0.000	0.000	0.998	-0.002	0.048	0.827	0.000	0.001	0.981
DEXP	6.445	3.157	0.076	6.025	2.791	0.095	5.634	2.484	0.115
ID		Included			Included			Included	
Likelihood Ratio		178.110	<.0001		167.205	<.0001		188.640	<.0001

XBRL: 1 if XBRL voluntary filers, or 0; FP: Firm performance, 1 if $NI_t>NI_{t-1}$, or 0; FIN: New external financing, 1 if [the issue of bonds or equities]$_{t \text{ or } t-1}$, or 0; MSH: % of major shareholders; SSH: % of minor shareholders; FSH: % of foreign shareholders; OBODRD: 1 if %(outside directors) > 25 or more, else 0; BIG4: 4 main audit firms in Korea; OARL: Audit delay, # of calendar days from fiscal year-end to date of the auditor's report; SIZE: Natural logarithm of total assets; OCFS: Cash flow from operating activities, scaled by total assets; CUR: Current ratio, current assets divided by current liabilities; CLEV: Change of debt ratio(DR=total liabilities divided by total assets), $(DR_t − DR_{t-1})/DR_{t-1}$; CSALES: Change of sales, (total sales $_t$ -total sales$_{t-1}$)/total sales$_{t-1}$; TQ: Tobin's Q, {(# of common-shares outstanding*closing price)+total liabilities}/total assets; FY: Listing period on a stock exchange; DEXP: Export dependence, foreign sales/total sales

TABLE 6
Regression Analysis: Dependent var: Earnings Quality

Dep. Var.	ADA			APDA			ACDA		
Variable	Parameter	t Value	Pr > |t|	Parameter	t Value	Pr > |t|	Parameter	t Value	Pr > |t|
Intercept	0.138	3.150	0.002	0.008	3.130	0.006	0.212	4.300	<.0001
XBRL	-0.013	-2.570	0.011	-0.007	-2.880	0.008	-0.006	-2.050	0.029
SIZE	-0.004	-1.720	0.087	-0.003	-2.790	0.004	-0.007	-2.640	0.009
LOSS	0.016	1.930	0.054	0.034	2.850	0.005	0.004	2.450	0.007
CUR	0.000	-0.080	0.936	-0.002	-0.710	0.480	0.005	2.210	0.027
MSH	-0.001	-2.100	0.092	-0.009	-2.470	0.064	-0.032	-2.140	0.033
FSH	-0.029	1.990	0.014	-0.007	-2.250	0.010	-0.013	-2.600	0.006
TA	-0.018	4.400	<.0001	-0.088	5.340	<.0001	-0.003	-5.060	<.0001
OCFS	0.112	1.310	0.021	-0.063	0.880	0.380	-0.074	-1.370	0.173
CSALES	0.019	1.370	0.171	0.020	0.980	0.328	0.059	3.880	0.000
ID		Included			Included			Included	
F	3.210	<.0001		3.300	<.0001		3.010	<.0001	
Adj R-Sq	0.078			0.082			0.072		

ADA: Absolute value of DA from Modified-Jones model; APDA: Absolute value of DA from Performance-matched model; ACDA: Absolute value of DA from cash flow model; XBRL: 1 if XBRL voluntary filers, or 0; SIZE: Natural logarithm of total assets; Loss: 1 if $NI_t<0$, or 0; CUR: Current ratio, current assets divided by current liabilities; MSH: % of major shareholders; FSH: % of foreign shareholders; TA: Total $accrual_{t-1}$, $NI_{t-1} - OCFS_{t-1}$; OCFS: Cash flow from operating activities, scaled by total assets; CSALES: Change of sales, (total $sales_t$ -total $sales_{t-1}$)/total $sales_{t-1}$

4.2 Islamic Accounting, Banking and Finance

ACCOUNTING AND ACCOUNTABILITY IN ISLAMIC RELIGIOUS BASED ORGANIZATIONS: THE CASE OF PESANTREN IN INDONESIA

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Abstract

Religious-based organizations, especially, Islamic based organizations have long played a very significant role in providing a lot of services for society. One of the most important organizations, in Indonesia, is called pesantren [Islamic boarding school] that provide education services at minimal cost for students. They received a lot of funds either from government or from society at large. However, there are concerns that accounting and accountability practices in this kind of organizations are less than satisfactory. Thus, the aim of this paper s to explain the accounting and accountability practices in pesantren in Indonesia. A case study of a pesantren is undertaken the data generated from interviews people inside and outside the organization and also review of documents. An overview of the management of pesantren is provided. This is followed by a discussion of the accountability relationship as well as the accounting and its role in the organization. Finally, the financial arrangement and the role of board in enhancing accountability were also discussed in this paper

INTRODUCTION

There has been growth in research in religious organizations as noted by many researchers (see Laughlin, 1988, 1990; Walker, 2002; Booth, 1993; Rahim and Goddard, 1998; Lewis, 2001, 2006), but there are only few researches that examined the issues of accounting in religious organization (Booth, 1993). Most researches in this area have been focused primary on economic and political factors. Only recently, researchers are beginning to look at some of the broader managerial issues of non profit organization. Consequently, there are growing numbers of literature on non profit organizations that attempts to understand accounting and accountability as an organizationally situated practice. However, only limited number of researchers examined Islamic religious organizations, specifically educational institutions. Furthermore, the issue of accounting

and accountability in Islamic religious organizations have been generally unexplored in accounting academic literature (see, Ezzamel, and Carmona, 2006).

In Indonesia, the country with the largest Muslim population, religious organization, particularly, Islamic religious institutions have provided a lot of services for society. One of the most important institutions is Islamic boarding school or in Indonesia is called "pesantren" that provides education services at minimal costs for students. Currently, there are 14,656 pesantren operating in the country (see Directorate of Religious Education and Pesantren, 2005, p. 18). In the NAD[184] province in which this case study conducted and the only part of Indonesia which has the legal right to apply Islamic law (shari'a), there are 852 Dayah (they are typically called pesantren elsewhere in Indonesia) in 2007[185]. These pesantren are mainly owned by foundation and private owners. As such, their operations depend mainly on public support and trust.

Due to the lack of information regarding financial accountability in these organizations, a lot of anecdotal evidence suggests the lack of public accountability and transparency in these organizations. A study is needed to examine accounting and accountability practices in Islamic religious organizations. As such, the objective of this paper is to investigate and to provide detailed information about one of Islamic boarding school in Indonesia. It focuses on the finding of the research pertaining to accounting information and accountability relationship in a single case study.

METHODOLOGICAL APPROACH

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[184] NAD is the abbreviation of Nanggroe Aceh Darussalam. It refers to the name of a province in Indonesia
[185] Sources, the Department of Religious Affair, Banda Aceh-Indonesia.

Interpretive case study is seen as the most appropriate method for this study since accounting and accountability practices in religious organization is social phenomena and value based activities which encompass, moral, spiritual, material and social aspects (see Hameed, 2000; Sulaiman, 2005, p. 36). The social world is a subjective construction of human which is being continuously changed or reaffirmed. Hence, there is no universally valid rule and value of accounting and accountability practices. This research approach, accordingly, is consistent and compatible with the epistemological and ontological assumptions in which the world and reality are interpreted by people in the context of historical and social practices (Rowlands, 2005).

The data for this study were mainly derived from semi structure interviews, documents and observation. The focus on multiple data sources for this single case study will allow a greater "depth" of data regarding the accounting and accountability practices of the organization case and perception underlying why accounting and accountability reports are presented in the way they are (see Lightbody, 2005). Eleven semi structures interviews were conducted with key informants both inside and outside of the organization case who have some leadership responsibility in this pesantren entity. These consist of director of the organization case, unit managers, from difference divisions, students, member of foundation committee, director of government agency and director of organizational donors who frequently provide donation for local Islamic religious organizations as well as Muslim scholars. In order to cover as broad range of issues as possible, the case organization is large modern Islamic Boarding school operating in Aceh, Indonesia.

The paper is structured as follows. It starts with an overview of the case organization [Pesantren Peace][186]. Then, it is followed by management of pesantren and its financial transparency. The next section presents the accountability relationship as well as the accounting and its role in the pesantren. The financial arrangement and the role of board in enhancing accountability were also discussed in this paper.

OVERVIEW OF PESANTREN PEACE

Pesantren Peace [187] is one of the Islamic boarding schools in the NAD province, Indonesia. This 25 hectares pesantren complex is operating under the wing of Yayasan [Foundation] Kita [188]. Besides pesantren Peace, this foundation also runs another educational service unit. The director of the foundation together with its committee members determines the appointment of directors of the institutions under its management. The committee of the foundation does not interfere directly in the running of organizations under its care. The organization structure of Foundation Kita is presented in figure 1.

Organization Structure
Foundation Kita

FOUNDATION COMMITEE

PESANTREN PEACE

NURSING ACADEMI

Figure 1 : Organization Structure of Foundation Kita

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[186] The name of the organization has been change to ensure confidentiality.

[187] Pesantren Peace refers to the name of pesantren institution used as the real name is disguise to ensure confidentiality. Organization case disguised.

[188] Foundation Kita refers to the name of foundation that oversees the Pesantren Peace disguised.

The operation of the Pesantren Peace is under the supervision of the director of pesantren and foundation committee of the Foundation Kita. Pesantren Peace was established in 1961 by a number of community leaders who care for the development of education in Aceh. This Pesantren is claimed to be one of the biggest and modern pesantren in the NAD Province. Two educational institutions are run by the Pesantren Peace. Within its compound one can find madrasah aliyah (senior high school) and madrasah sanawiyah (junior high school). Both of these educational institutions are opened to boys and girls from various family backgrounds.

The main activity of the Pesantren Peace is providing educational service at the junior and senior levels of high school at lower costs. Pesantren Peace serves as private provider of educational services. The overall education activities throughout the pesantren are coordinated by the management of pesantren. As an Islamic educational institution, Pesantren Peace is first and foremost, a place of education and learning. The pesantren mission statements emphasis on intellectual aspects in providing education for Muslim students.

As a modern pesantren, or usually also called pesantren terpadu (integrated pesantren), this institution follows the standard curriculum set by the government, in this case, the standard curriculum set by the Department of Religious Affair of the Indonesian government. In addition, the students are also taught kitab kuning[189] [classical Islamic text book] curriculum as a specific characteristic of pesantren. Class sizes at both schools are about 30 students per class which consistent with the standard of government schools. During school hours all students have to wear school uniform. Female students are obligated to cover their hair or in other words have to wear

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[189] Called Kuning, yellow, after the tint paper of books brought from Middle East in the early twentieth (Martin, 1990, p.1).

1165

"hijab" [190]. After school hours students have to study kitab kuning**.** These learning activities usually take place in the afternoon and at night.

Teaching is conducted in Indonesian Language. Even though, students are encouraged to use Arabic and English when they talk each other, in practice, however, students still prefer to converse in Acehnese or Indonesian.   Seen from this point of views, this pesantren fulfils a dual function as an institution of formal and informal learning that espouses a broad learning concept. Even though pesantren Peace is a non government organization (NGO), the studying and teaching process is not contradictory to the government run educational institutions. Therefore, the system adopted by Pesantren Peace can match the standard of any public schools**.**

Pesantren Peace certificates are regarded as being equal standards as those of public school by the Indonesian government. Thus, all of Pesantren Peace graduates qualify to continue their education in the public institutions at the post secondary level. Many of their graduates later attend universities. Some of them continue their study either in Islamic religious institutions in Middle East or in non religious universities either in Indonesia or overseas.

In 2008 Pesantren Peace has 1,803 students, consist of 825 male students and 978 female students. The total numbers of teachers employed are 178. They consist of 150 temporary teachers, 25 permanent teachers, 2 contract teachers, and 30 are government officers are assigned to teach at the pesantren Peace, and 8 volunteer teachers**.** All teaching staff, except government officers who are assigned to teach in pesantren is salaried and paid on a monthly basis by the management of pesantren.

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[190] Hijab is the Arabic term, frequently used in Malaysia, refers to the dress worn by Muslim women that cover hair and neck. (see also MSN Encarta Dictionaries)

In recruiting staff, the management of pesantren considered the educational background of teaching staff as an important aspect or criteria in recruitment process, especially, for teaching position. The minimum qualification required for teaching staff is a bachelor's degree and for the administrative staff is a high school certificated.

The management is open to recruit either administrative or teaching staff regardless of which institutions they graduated from. Nevertheless, the majority of teaching staff had graduate from Pesantren Peace. The basic salaries for the staff can be as low as 500,000 rupiahs [Indonesian currency] or equal to US$ 50 and as high as 2,000,000 rupiahs or equal to US$ 200. Some staffs are also provided housing in the pesantren complex. Currently, 30 staffs together with their families are staying within the complex. They are only required to pay electricity bill. All students are housed in dormitory for boys and girls respectively. Foods for students are cooked in the different premises and served three times daily. The cost of studying and staying in Pesantren Peace is 300,000 rupiahs or equal US$ 30 per month. The fee covers foods and accommodation.

The funds collected from students are administrated by Finance Section of the Pesantren. The above figures show that pesantren provides services for students at low cost. Even though this pesantren now charges higher fees than previously, they are still significantly cheaper than non pesantren educational institutions, even compared to the government run high school institutions. When asked how does the pesantren manage this limited budget to fulfil the need of students. The director of pesantren said:

> [Laughing] I don't know how to do it, but we try to manage them effectively and efficiently. I think it is a matter of honesty.

MANAGEMENT OF PESANTREN PEACE

Historically, religious organizations are managed   by people who have very little knowledge of financial management. However, such a situation is not happened to the Pesantren Peace. Currently, Pesantren Peace is managed by a director or usually called "Mudir" who exercises overall control of pesantren and its affair. The director is not formally trained in religious study. He is a dedicated and successful man who had experiences in managing business organization. He is also the son of one of the founders of Pesantren Peace. The director is assisted by one deputy director, also refer to as "Wakil Direktur" (who hold degree in Islamic studies from the University of Al Azhar, Cairo), a secretary, and treasurer [Head of Finance Section]. Furthermore, the Director is also assisted by several sections head. Except those who are working in finance unit, almost all of unit managers are graduates of Pesantren Peace. Managers of both schools, for example, are alumni's of Pesantren Peace who have already hold university degree in education, and one of them is now doing master program in education. The organizational structure of Pesantren Peace is illustrated in figure 2

Organization Structure
Pesantren Peace

Figure 2 : Organization Structure of Pesantren Peace.

The above figure shows that the highest authority in the organization of the Pesantren Peace is in the hands of Director. All people in the organization structure are responsible to the director for the activities performed. However, unlike in the traditional pesantren in which the leader of pesantren "Tengku" has total power and authority to control any aspect of pesantren, the role of director in Pesantren Peace to some extent is restricted. He also has to consult with the foundation committee as the director explained:

> The other parties involved are definitely the committee of foundation. If I do not carry out my task well, of course the foundation committee has the right to pose questions. They will caution me.

The director of Pesantren Peace was appointed by the director of the Foundation Kita. Historically, Bupati, [the regent] of the District of Aceh Timur [Eastern] automatically

become the director of the Foundation Kita and he is eligible to appoint the Director of

Pesantren Peace. As the director of pesantren commented:

> Historically, the Head of the District automatically become the director of the Foundation. Since [the city] achieve a city status, it is the mayor who automatically becomes the director of the foundation. It is the mayor who appointed me as the director of pesantren.

In managing the pesantren, the director acknowledges that he has full autonomy and

authority to develop all aspects of the pesantren. He is responsible for the development

and advancement of pesantren to serve the community.

The management of pesantren did not formulate any formal standard guidelines or

procedures in managing the pesantren operation. There process of formulating the

guidelines and procedures are just started as commented by the human resource

manager said:

> We now try to develop one which includes recruitment and leave procedures. It is, however, not yet ready for use as a standard procedure since it is not fully completed and still needs to be further evaluated.

There is also a group called Majelis Istihsyar [Advisory Board] in this organization. This

advisory board comprises of 10 senior persons that have been long involved in

Pesantren Peace activities and their duties are to provide direction and guidance for the

management in various aspects, except for financial matters. They are not compensated

for their services, since they work on a voluntary basis.

FINANCIAL TRANSPARENCY IN PESANTREN PEACE

The issues of financial transparency and whether or not a non profit organization, should

make their financial information available to the public is a complicated subject. Even

though, the majority of scholars, including Muslim scholars, agree that such information

should be made public, not every foundation is ready and voluntarily publish such

information. Not every one agrees that such information should be made public. The

Manager of Human Resources indicated that so far the management of Pesantren

Peace has not made its financial information available to the public. As he elaborated:

> It is difficult to apply ideal things in such community. On the one hand, we want a complete public transparency through media etc. On the other hand, due to the lack of understanding on the part of community, they tend to use mass media to criticize any minor issues and to damage the image of the institution. I saw such tendency, especially here.

Ideally the public is entitled to the basic of information about the organization but it is

very difficult to implement it in practice. Pesantren Peace is reluctance to make its

financial figures available to the public since due to the fear that some people will use

the information for irresponsible purposes such as to harm the existence of the

organization or creates a lot of problems to the organization. The same view was also

expressed by the director of Pesantren Peace. He affirmed that providing organization

financial information to the public is good to avoid negative issues. However, the

organization needs to be very careful. Seen from this light, reluctance of Pesantren

Peace to make its financial information available for the public might be judged as

somewhat irrelevant to the best interests of the organization. Also, it possibly can create

a lot of problems to the organization. These kinds of views are also found in other

studies in the area of non profit organizations accountability as noted by Kuan et al,

(2003, p. 14).

> There are many reasons why even the legitimate NPOs are reluctant to make public their financial figures that we might judge as somewhat irrelevant or unfounded. For instance, an NPO successful in fundraising might not want to advertise too much its success for fear that the public will think it has enough money and will stop giving. Another example might be of an NPO relying on government funding that is reluctant to advertise the amount of subsidies it received for its projects because it is fearful of competition from other NPOs.

In case of Pesantren Peace, the director emphasized that the management of pesantren

provided its financial accountability report to the foundation committee since the

committee is the "representative of society at large", to the government and to private organizational donors. However, there is no financial report given to individual donors who usually contribute a small amount. This is reflected from the following comments of the director of the Pesantren Peace. As he said:

> We only provide reports for any donation received from organizational such as BRR191 or local government...There are always financial report submitted to the foundation committee…No financial reports has ever been made public …unless it is concerning with a great amount of money. As long as I know no single member of the community had ever requested for financial information.

The above quotes imply that the willingness of this organization to provide financial accountability is not free from the demand and enforcement from other parties. Because government, private organizational donors or foundation committee, for examples, usually have power to impose on the recipient of fund, i.e., Pesantren Peace to ensure the donations are properly utilized. It is usually done through the use of reporting and monitoring activities. While, the society or individual donors who contribute the small amount usually do not withdrew their donations or demand accountability reports. This may be a logical position for the management of Pesantren Peace, since if the management rejects the demand for accountability made by funding bodies the organization may lose funding.

Furthermore, the management of the Pesantren Peace is also accountable to its targeting beneficiaries through the annual general meeting with students' parents. This is reflected from the statement of Human Resources Manager. As he said:

> There is no specific forum for financial explanation to public, it never happens. It is only for student parents. And it is not only explaining the financial situation of the pesantren and it happens only during annual meeting.

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[191] Badan Rehabilitasi dan Rekonstruksi (Rehabilitation and Reconstruction Board) Organization established on April 16, 2005, to implement Aceh and Nias,Indonesia post-tsunami *reconstruction*

Thus, the accountability in this institution is defined in term of reporting its financial affair only to the government, to certain private organizational donors and to the students' parents as its beneficiaries. The management of pesantren does not view the general public at large as a key audience or stakeholders for the purpose of reporting its financial information. This is also happened to many other NPOs as documented in previous research of foundation as Kuan et al (2003, P.266) explains:

> The organization felt that dealing one on one with funding agency by complying with its reporting regulation was enough and didn't see the need for the public disclosure. For this organization, and perhaps for many other NPOs, accountability to general public mostly means letting the public know about the work and the results achieved by the organization, but it does not necessarily imply that the organization has to make its financial information available.

In spite of this, the director highlighted that accountability to public is important but not in term of providing financial figures. As he explained:

> The most important thing is to provide information to the public such as the number of students on our scholarship to study either in Egypt or Java. Our graduates are generally of high quality. Basically these are the information we provide to the public. We do not provide our financial information.

The management of pesantren uses program outcome approach to show its accountability to society. This might be a logical position for some of the non profit organization, such as the Pesantren Peace where it receives financial support mainly from certain donors and provides services for a certain group of people in the community. However, these reasons are somewhat not consistent with the view of Muslim scholars as reflected in the comments of the Muslim scholar:

> So by right the Muslim has direct accountability, the donors, and from the Islamic point of view, even though you are not a donor, you also have direct accountability, for example the recipients, the recipients of zakat money for example, why are you one of the stakeholders, reason is, you have the right to receive from that money, to the poor, and in fact the Muslim at large, all the Muslim public.

The management of the Pesantren Peace also implements what they called "open financial management" as commented by the Director of the pesantren:

What I am doing right now is an open financial management. Suppose, we receive some donations, I always inform all members [organization staff]. Therefore, my financial administration is somewhat open which is different from previous administration.

The human resources manager acknowledged that it is a strong willingness of the pesantren is transparent; however this has not been undertaken mainly because they do not have the person with the required skill:

We have strong willingness to show financial transparency. However, we have a big constraint in term of human resource. It takes an expert to establish good transparency at our institution. Our constraint is lack of skilful staff.

It is important to note that that in the past, Pesantren Peace received a lot of fund from local [district] government and public donations, either from individual donor or organizational donors. As mentioned, the Director of foundation committee was always held by the chief of District of Aceh Timur (The Regent). Therefore, Pesantren Peace received a lot of fund from the District government. Consequently, Pesantren Peace holds a lot of fixed assets, such as land, school buildings, dormitories, mosque, etc. As director of pesantren said:

In the past, based on the previous foundation regulation, every regent was appointed to be the head of the foundation. Therefore, there are a lot of local resources. There was financial deduction from various government budgets which is injected to the pesantren. Thus, although this is a private institution there were many government officials working for this pesantren. As a result, we now have such a big pesantren which is because of the support that we received from the local [district] government.

No one in the pesantren entitle to claim any individual rights of ownership over these assets. Notwithstanding, few documents of fixed assets such land certificates are still registered in the name individual persons and in the process of transferring the titles. However there as some problems as mentioned by the director:

Some of the lands still remain under the name of the former directors of pesantren. It is because Pesantren [Peace] didn't have required documents back then. So that the land affairs agency refused to transfer them under Pesantren Peace's name (Director of Pesantren).

Furthermore, Pesantren Peace does not have the proper documents of the fixed assets owned. Currently the main financial sources of funds are now students fees, and special financial aid from government agencies such as [Department from Religious Affair] to cover operating cost of school. The donations from local government and private donors cannot be expected regularly. There is almost no financial source received from the Foundation Kita as its patronage.

ACCOUNTABILITY RELATIONSHIP IN THE PESANTREN PEACE

Pesantren Peace views itself as accountable to three different levels of stakeholders. Firstly, it's accountability to donors, either private organizational donors, or government donor. Secondly, it's accountability to one another and themselves, as the unit manager, staff, foundation committee, and its partners. Thirdly, it's accountability to those who are served by the organization, in this case the community in which their children are educated by the pesantren [students' parents].

There are three types of accountability relationships, i.e., upward, lateral and downward accountability in the pesantren. Upward accountability is accountability to donors. Downward accountability refers to accountability to the clients or to individuals or groups to whom NGO provided goods and services (Christensen and Ebrahim, 2004). Whereas, literal accountability is an extension of the upward and downward accountability, and this refers to organizations accountability to their staff, their mission, goal and their partners (Christensen and Ebrahim, 2004, Jordan, 2005). Lateral accountability also means that manager of each unit in the organization has the responsibility to give account to its superior or to the higher authority.

In case of upward accountability, the management of Pesantren Peace only fulfils financial accountability to government and private organizational donors. There is no financial accountability to the individual donors. This accountability is shown through sending reports and through verbal explanations during monitoring visit from the donors. Pesantren Peace always receives monitoring visit from either government agencies or organizational donor that provided financial aid. This is also highlighted by the Directors of two donor institutions. As they said:

> After giving financial support, Department of Religious Affairs makes a field visit to monitor financial spending, and also to ask the beneficiaries to give account of expenditures made together with physical evidences
>
> (Head of Government Agency)

> Yes, when we donate money to them, we also some time visit their organizations to ensure that they are transparent, accountable, and also have good management both financial and general administration…our monitoring team visit the field and office to ensure the quality and the progress of the project
>
> (Director of a Private Organizational Donor).

In term of literal accountability, each head of unit within the pesantren has to give account to the Director of the pesantren either periodically or by request. All of them have to make sure that financial resources are used properly. This is usually ensured through both formal accountability [written] reports and informal accountability [explanations].As Manager of Human Resources said:

> Reports from unit's managers are always required either through meeting, formal [written] or informal explanation.

While accountability to it's beneficiaries as downward accountability is done by giving oral explanation and discussion during annual meeting with students' parents. Clearly, accountability relationship in Pesantren Peace is "multi-layered" accountability is performed through different tools to different audience.   Table 1 provides a summary a various accountability tools used by Pesantren Peace.

	Accountability To Whom	Accountability Tools
Upward/External Accountability	◆Private Organizational Donors ◆Government Agency	◆Formal [written] Report ◆Expenditure evidence [Invoices] and photo of physical progress for certain donor ◆Verbal explanations to donor during monitoring visit team
Literal/Internal	◆Foundation Committee [Board] ◆Unit Managers, Staff	◆Formal [written reports] ◆Expenditure evidence [invoices] ◆Staff Meeting ◆Informal communication among staff ◆Phone conversation ◆Attending board meeting ◆Regular contact with School managers
Downward Accountability	Beneficiaries Students' Parents	Verbal explanation and discussion during general annual meeting.

Table 1: A Summary a Various Accountability Tools Used By Pesantren Peace.

Interestingly, despite the hierarchical nature of the Pesantren Peace, there are different accountability requirements for the fund used by certain sub units of the pesantren. For example, special financial aid received from the government such as BOS [School Operating Cost] fund. The government, in this case Department of Religious Affair directly transfers this kind of fund to the account of the school units, not to the pesantren account. This transfer of fund follows the government policy in which the units [schools] must be administrated separately. Thus, the school managers have their own treasurers, and the schools are only directly accountable for this fund to the government agency by complying with the government reporting regulations. Whereas, to the director of the pesantren, they only need to inform the total amount of such special fund received and disbursed.

Figure 3 illustrates diagrammatically the financial accountability relationship adopted by the Pesantren Peace.

Figure 3: The Financial Accountability Relationship Adopted by the Pesantren Peace.

The above figure shows that there are various stakeholders to which Pesantren Peace is supposed to be accountable. These stakeholders can be broken down in to two main groups. Those out side the organization or called external stakeholders and those inside the organization or internal stakeholders. Among external stakeholders three main groups are identified. They are donors who provide charitable support, students' parents (clients) who use pesantren services, and the community that benefits indirectly from the services. Whereas inside the organization, two different groups that have a stake in pesantren are identified. They are foundation committee and the staff.

This seems that the Pesantren Peace views itself as steward of the fund entrusted to it's institution with the requirement to give an account of it's stewardship to it's stakeholders. The management of pesantren has to provide a link between amanah [trust] and a total accountability and responsibility to human being. This belief is consistent with the concept of accountability as manifestation of Islamic teaching in which Muslims cannot separate between accountability to God from accountability to human being. Thus, as an Islamic religious organization, the pesantren has to satisfy accountability obligations to a range of stakeholders including government, private corporate donors, clients and members, as an integral part to satisfy accountability obligation to God.

ACCOUNTING AND ITS ROLE IN PESANTREN PEACE

The field of accounting in non profit organization, particularly, religious organizations has been the subject of previous study (see Laughlin, 1990; Rahim and Goddard, 1998). It purpose is to obtain an instrument for internal and external stake holders to be used to manage and monitor the organization mission development. For example, when a non profit organization receive a donation it is essential to quickly record the amount and report how it is spent. It is argued that ideally accounting and financial reporting system lead to better decision making either for internal management or external stake holders, such as government and donors. Besides that, as mentioned in the literature, accounting information has long been used as the main accountability tools in any organizations activities, regardless of their objectives and missions.

In case of Pesantren Peace, the management sees accounting as an instrument that plays a very significant role in the organization as reflected from the explanation of Human resources manager :

> Accounting is indeed very necessary for an organization, like in this pesantren. I do
> not see accounting only from the viewpoint of working professionalism or the

standards used. Even in Islamic teaching, as a matter of fact, accounting, record, report etc are very important. No matter how well a person carry out a task there would be bad assumption from other parties if it was not accompanied by good recording.

He further said:

I believe accounting is absolutely important and it is a part of religious activities because Islam encourages recording. It can be establish if supported by a good accounting, as well as good transparency. I think it is very crucial.

This view is also reinforced by the Director of pesantren. As he said:

In the past this pesantren was a mess, unorganized, because of poor accounting practices. They were only concern about the religion. I think accounting is also part of religion.

This understanding implies that for the management of Pesantren Peace, accounting activities are viewed as activities that have no contradiction with the   pesantren mission and it is perceived as an integral components of managing the pesantren institution or in other words sacred in nature. Thus, in practice accounting is not treated as irrelevant to the organization mission as it was documented in previous research of some religious organizations.

 In short, a sacred secular divide where accounting is viewed as secular activities is not the case for Pesantren Peace. This departs from the major finding of previous research such as the Church of England conducted by Laughlin(1988, 1990) in the sacred/profane dichotomy. However, it is consistent with the concept of accounting activities identified in the previous research on Islamic religious organizations conducted by Rahim and Goddard (1998).

Contrary to what the management of Pesantren Peace said, in practice the accounting in this organization is not functioned maximally. Accounting activities are performed by people who have administration skill and not by professional accountants since the pesantren does not employ the professional accountant. As director said:

1180

> The finance unit manager is not good at accounting, but I coach her based on my experience in industry I was involved…I have to say that there are some recording are not suitable. Therefore, I try my best to improve it. Hopefully it is getting better.

This quote implies that even though accounting is considered to play an important role to support the achievement of the goal of Pesantren. The management of the Pesantren Peace does not pay enough attention for accounting activities. This also can be seen from the system used, in which all transactions are still processed manually, even though, Pesantren Peace have had huge assets to be managed. As a result, the accounting section is unable to implement good accounting practices. Furthermore, there is also no accounting procedures manual regarding accounting practices

Pesantren Peace produces both monthly and annual reports which consist of simple cash income and expenditure reports. The information is about transactions and the cash balance during a reporting period. The reports rarely, if ever are used to evaluate past performance. There is no other financial report prepared by finance section. The financial reports provided are used for both accountability and for decision making purposes. Even though, in practices, it more focuses on accountability to its financial sources in order to make itself accountable for its actions. This is reflected in the following comments:

> Financial report is basically used to show financial accountability to the donors and also to help decision making of what to do with the existing financial situation (Human Resource Manager).

> Financial reports are used to make decision and also for the accountability to the Foundation committee and the donors. For instance, the construction of the building should be delayed because of financial problems [insufficient finance] (Director of Pesantren)

Thus, the accounting practices in the pesantren mainly focuses on control of receipts and disbursement of fund through providing monthly and annually cash receipts and cash disbursement reports which are mainly used for accountability purposes. There is no consolidation financial report provided to provide an overall financial condition of

Pesantren Peace. The format used is likely similar to what it is called fund accounting. In the pesantren, budgets are produced occasionally and only for physical development as Director said:

> No written budget is prepared, except for physical construction. It has been a standard, for general kitchen for example, it can be predictable. But still the budget should have been made. I have made a lot of improvement since my coming here in 2004, and I think we are heading to the right direction.

For physical construction, the budget is some time used to measure the effectiveness the efficiency of the materials used through comparison the budget figures with the actual figures. This is depicted from the statement below:

> For building construction, I directly supervise, for example, I ask question why they bought 100 sacks cement while in the budget there are only 50 sacks written (Director of Pesantren).

Thus, budgeting is not seen as part of accounting activities as well as accountability mechanism. The budget was not perceived as the most important organizational process with respect to accountability purpose. As mentioned, none of those who involve in management team have accounting or management educational background. It is also important to note that in this institution fund spent is not classified as program and administrative expenses. As a consequence, seen from accounting point of view the management cannot measure the organization performance. Since, one way to judge an NPO's performance is "to measure the amount of resources the organization spends on providing program services (to carry out its purpose) vs. what it spends on management and general expenses and fundraising. For most organizations, a higher percentage of resources spent on program services than on management and fundraising is considered a positive performance indicator" (Henderson et all, 2002, 3).

INTERNAL CONTROL AND FINANCIAL ARRANGEMENT

There have been a number of previous studies that have documented the important of good administration and internal control in religious organizations such as churches and mosques. Internal control theory suggests that good internal control structure will result in less embezzlement (see West and Zech 2008;   Sulaiman, 2007; Berry, 2005). This study explores two aspects of financial arrangement of Pesantren Peace. They are the administration and internal control procedures of the receipts of revenue and the disbursement of fund.

Cash Receipts

In Pesantren Peace, particularly, the ways the Finance section handled receipts or fund collected either from students, donors and society are under policies of the management of pesantren. There are three control activities for this affair, which are the recording aspect, the physical custody of the fund and the segregation of duties.

 At a collection stage, a cashbook for cash received is maintained. The accounting section records all it's financial transactions in cash book as the head of finance said that "all cash inflow and cash outflow are recorded in a special cash book". Pesantren Peace appointed two cashiers to handle the collection of cash, the Chief of cashier and another one is assistant cashier. A report of collections is given by Chief of Cashier to the Head of Finance Section [treasurer] [192] for recording in the cash book. The task and responsibility of counting and recording of the collections in a cash book are segregated to different officers as explained by the head of finance

> The cashiers have to do calculation every afternoon. Then they submit it to me. I also counted the amount based on the receipts submitted to see if it corresponds with the cashier calculation. (Head of Finance Section)

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[192] Head of Finance Section is some time called treasurer

This is very important to avoid losses resulting from financial misused because embezzlements often occur when trusted employee have access to both assets and financial records. Therefore, a fundamental tenet of internal accounting controls is to keep the financial records keeping separate from those individuals that have access to assets, especially cash (see West and Zech, 2008)

Thus, there is a financial control procedure in Pesantren peace for the collection of fund. Amazingly, all officers of accounting section have limited knowledge of internal control; even they do not even know the advantages of the segregation of duties of counting and recording of collection activities. When asked why the pesantren need to segregate this task? The Finance Section Head explained that she did not know that this task should be segregate for the purpose of internal control. As she said: "To tell you the truth, I don't really understand why we need the segregation of duties." They just follow the policies made by the director of the pesantren. Whereas, the director of Pesantren Peace realized the importance this segregation of task due his prior working experience in managing business organization. As he said:

> I was the manager of [business organization] which has activities throughout Aceh. Therefore, I was asked to lead this pesantren. The knowledge that I gain from the company helps me a lot in leading this institution.

All cash received are kept in a safe "locked box on pesantren premise" since the cash receipts are not always banked since part of it are used for daily expenditures. A monthly report of cash receipt is routinely prepared by accounting section. Four copies of monthly collection reports are send to the director of the pesantren. As the head of the Finance Section said:

> We submit four copies of monthly report of cash received to the director. Then the director decides to whom the report will be submitted whether to foundation committee or any other parties. It is the concern of director.

In the pesantren, at least four persons, i.e., the director, director, the deputy-director, secretary and head of finance unit have the information about donation and other aids received from society.

Cash Disbursement

Major disbursements are sometime made by cash. Serial numbered cheques are only used if there is no cash. Salary payments are made by cheques. If disbursements are made by cheques, two people are required to sign the cheque, i.e., the Director of pesantren and the Head of Finance Section. An invoice is treated as a mandatory supporting document for payment in this organization. Except for routine disbursement such as expenditures for kitchen, all   invoices for other goods and services expenditures are required to be checked for accuracy, and approved by Director of Pesantren before payment is initiated either using cash or using cheque. The Head of the Finance Section will not issued cash before getting approval from the Director of Pesantren. All disbursements use official receipts as based for recording for the treasurer to record in cash book. The pesantren does not maintain a petty cash fund. For such disbursement, the pesantren also issued from the same source used for major disbursements. The small disbursements are also initiated with vouchers that have to be approved by a responsible officer, in this case.

THE ROLE OF BOARD IN ENHANCING ACCOUNTABILITY OF PESANTREN PEACE

Financial accountability can be improved by several measures. One of them is that the organization should have a board of director that compose of independent individuals, including some not directly connected with or interest in the organization. In non profit

organization, the board can play a critical role not only to make selection of the director of the organization, but also play a central role in enhancing accountability of the organization in ensuring that the organization resource are used wisely and the mission is fulfilled (Kuan et al, 2003). In practice, the board members of non profit organizations, including religious institutions usually consist of volunteers, whose efforts are mainly dedicated towards advancing the missions of the organization. Previous study of foundation conducted by Kuan et al (2003) documented that the most important responsibility of their foundation board members is to verify an organization annual work plan followed by verifying and approving annual budgets and financial accounts and defining organization tasks and operational procedures. It is also mentioned that board governance as an important issue when discussing accountability topic of non profit organizations. Even, some view that it is extremely important for the board of directors to play a central role in accountability.

In the context of Pesantren Peace board members or those who are eligible in monitoring and ensuring proper organizational accountability are referred to the committee of Foundation Kita. This foundation committee, currently consist of 8 persons, which consist of one Director, one Deputy Director, one Secretary, one Deputy Secretary, one Treasurer, and three advisory. In the past the Director of foundation committee was also the director of Pesantren Peace.

> Previously, board, Chairman of board was also the director of this pesantren. He was the one who supervised and at the same time managed the pesantren. (Human Resources Manager)

Consequently, the board played very limited role and their function in enhancing financial accountability of pesantren is rather weak. Their function is mainly on giving final

approval of decisions made by the director of Pesantren Peace. This is depicted from the following quote

> When we receive fund like for the school operational fund, the foundation committee just signed the paper so that the money can be spent legally. Never have I been invited, never. It is us who invite them [foundation committee members].

However, with the new regulation, now those who hold position as an executive member of Pesantren Peace are not allowed to be part of foundation committee. This policy has been in line with the literatures of foundation accountability which suggested that a strong oversight board must be independent from management practice (Jordan, 2005). From the management control system point of view, this segregation is very important, because if any board members is directly benefiting from the work of the organization, it can create a conflict of interest.

Seen from their involvement in the development of Pesantren Peace, currently, committee of Foundation Kita is considered as passive. They are not involved with fund rising efforts of the pesantren. Furthermore, they do not set the initiatives to invite the director of pesantren and his members for financial accountability meetings, and also never review and verifying the financial report prepared by management of pesantren. This is reflected from the following comments:

> The supervision is actually necessary. The committee should monitor and provide advice and guidance to us. But, it never happens. They only come when we invite them. If we don't invite them they do not come. I think it is a real set back and it should not be that way (Director of Pesantren).

> The persons who have the knowledge about the pesantren business are previous committee members. The current committee members are somewhat passive, since reshuffle just took place. Because of the reshuffle they have to start from the beginning. They are not very well informed about the assets and financial condition of pesantren
> (A Committee Member of the Foundation).

Interestingly, the Director of Pesantren Peace tends to accept the passivity of foundation and he never makes efforts to get them to be more involved. This passive committee is

because of factors such as the low degree of professionalism of board committee and the busyness of the committee members themselves. None of board members holds degree or has training in accounting or management. They do not understand their roles in overseeing the pesantren. As a consequence, they cannot perform their duties as it is required.

Nevertheless, the foundation committee has expressed their willingness to be more involved and participate actively to advance the organization mission. As explained by a treasurer of committee members of foundation Kita:

> Now the foundation committee has made a plan to examine and audit the two institutions under the foundation. In the first meeting held in the beginning of March 09, they asked the directors of the two institutions to describe the assets condition of the respective institutions.

This initiative is also acknowledged by Human Resource Manager as he explained:

> They started to invite us [pesantren management] at the beginning of March. That was the initial step of the foundation committee…They would like to know the real condition of the pesantren in general, including its management and its finances.

According to the treasurer of foundation committee, the audit team itself will compose of Committee members of Foundation Kita and all of them serve voluntarily, and independent from any financial interest in the pesantren organization.

CONCLUSION

Pesantren Peace reflects another approach to Muslim education in the NAD province-Indonesia at present. It is creating a new type of modern Islamic boarding school in the region. In fulfilling its role as Islamic educational institution, this pesantren offers both the standard curriculum set by the Indonesian government and traditional religious topic [classical Islamic text book]. As such this institution is usually called modern pesantren or integrated pesantren by the community. Even though Pesantren Peace is non government organization, the system adopted can match the standard of any public

schools. Unlike many other pesantren graduates who cannot qualify to enter the post of secondary school, Pesantren Peace graduates qualify to continue their education in at public institutions either in Indonesia or overseas. The organization mission emphasis on intellectual aspects in providing education for Muslim students and to nurture them to become pioneers in implementing Islamic law comprehensively and establish civilized society, particularly, in the NAD province-Indonesia.

This Islamic boarding school is owned by a foundation in which the operation depend mainly on public trust and support. It received a lot of fund from the local government and public donation, either from individual donors or organizational donors. Pesantren Peace views itself as accountable to three levels of stakeholders. Firstly, it's accountability to donors, either private organizational donor or government donor. Secondly it's accountability to one another and themselves, as unit manager, staff, and foundation committee. Thirdly, it's accountability to those who are served by the organization, in this case the community whose children are educated by the pesantren.

The management of Pesantren Peace views financial report as an instrument that play a very significant role in enhancing accountability, and accounting activities are viewed as activities that have no contradiction with the pesantren mission. This is departs from major findings of previous research in religious organizations such as the Church of England conducted by Laughlin (1998, 1990) in which accounting activities was not treated as relevant to the organization mission.

Notwithstanding, in practices the management of Pesantren Peace does not pay enough attention to accounting activities. Accounting in pesantren is done by people who are not professional accountant. None of those involved in management team have accounting

and management educational background. As a result, the organization is unable to implement good accounting practices. Even though, this institution has had huge assets to be managed. The overall impression of accounting practice in Pesantren Peace is less develop and it only focuses on control of receipts and disbursement of fund through providing monthly and annually cash receipt and cash disbursement reports which are mainly used for accountability purposes. There is no consolidation financial report provided to picture the overall financial condition of the organization.

In the study found that currently the foundation committee play very limited role and their function in enhancing financial accountability of pesantren is rather weak. They do not set the initiatives to invite the director of pesantren and his members for financial accountability meeting, and also never review and verifying the financial report prepared by management of pesantren. Interestingly, the director of pesantren tends to accept this passivity and he never make efforts to get them to be more involved.

Thus, there is the need to improve the accounting and accountability of the pesantren. The more an organization provide complete information to the public about its management, and its finance, the more the public will have confidence in it and willing to support it (Kuan at al, 2003). Hence, all non profit organization, include those that define themselves as Islamic-based religious organizations should view providing financial information to the public as an opportunity to increase public understanding of their work rather just unwelcome it as a demand to be met since accountability improves the trust and confidence of those with whom the charity deals specifically the donors and the beneficiaries of funds.

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THE IDEAL SHARI'AH AUDIT FOR ISLAMIC FINANCIAL INSTITUTIONS (IFIs): PERCEPTIONS OF ACCOUNTING ACADEMICIANS, AUDIT PRACTITIONERS AND SHARI'AH SCHOLARS IN MALAYSIA

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Abstract

Shariah auditing has currently emerged as an important subject of discussion inline with the advance development of Islamic Financial Institutions (IFIs) which subsequently demand for the proper governance of the Shari'ah compliance issues. As a new emerging discipline, its scope of study, subject matter and body of knowledge is still in the process of development. This research aims to discern the perceptions of accounting academicians, audit practitioners and Shari'ah scholars on the subject of Shari'ah auditing.

By focusing on the fundamental issues of Shari'ah auditing for IFIs, this study has utilized the literature in this area and mail questionnaires to gather the data. The questionnaires aims at obtaining respondents' perceptions towards the fundamental issues in Shari'ah auditing i.e. the understanding of the term "Shari'ah audit", the appointment of Shari'ah auditors as well as their qualification requirements, areas to be audited under Shari'ah audit, the content of Shari'ah audit report, regulatory framework for Shari'ah audit practice, and the standards to be applied in performing Shari'ah audit.

The mail questionnaires were distributed to the accounting lecturers teaching in the Accounting Program at public universities in Malaysia, audit practitioners, and Shari'ah committee members of the Islamic commercial banks and Islamic subsidiaries of the commercial banks in Malaysia. This study reports an urgent call for the systematic development of the discipline Shari'ah audit. Most of the respondents also perceived the significant need for the establishment of a regulatory body to oversee the practice of Shari'ah audit, the standardized qualification and competence requirements for Shari'ah auditors, and a more comprehensive content of Shari'ah audit report.

1. INTRODUCTION

The emergence of Islamic financial institutions (IFIs) has created a new reality within the global finance arena, and supports the development of Islamic economics in particular. At its core, the research conducted on Islamic economics has increased tremendously in the past few decades. Though the effort to formulate the ideal Islamic economic system is still ongoing but its development triggers significant changes in many aspects of business activities, such as in the areas of accounting and auditing.

In the field of auditing, the establishment of IFIs results in a new dimension of auditing, i.e. Shari'ah audit, which is in addition to conventional audit. Its philosophies and basic principles are however, not new, having been practiced in the time of Prophet Muhammad (p.b.u.h) and His companions. Subsequently, those principles also were carried over during the time of Ummayyads and Abbasids (Khan, 2001). However, it is not the purpose of this study to provide in depth discussion on auditing practices in the early Islamic era.

Shari'ah audit might be simply defined as an audit to attest for Shari'ah compliance. However, how to comprehensively define the discipline of Shari'ah audit? Who are qualified to perform the task? What is the scope of Shari'ah audit? How do we audit the various dimensions of Shari'ah? Does Shari'ah audit necessitate a dedicated regulatory and supervisory framework on its own? These are among the questions that are yet to be resolved with regards to the Shari'ah audit. As a result, the theory of Shari'ah audit as well its practice is little known and heterogeneous across the countries. This phenomena has been largely caused by the absence of an established framework for Shari'ah audit that can serve as a guideline as compared to the conventional audit.

Ideally, there should not be any separation between "conventional audit", which refers to financial audit, and Shari'ah audit. In line with this, Karim (1990) contended that religious auditors and external (i.e. financial) auditors are supposed to come from the same organizational body since Islam does not separate between *religion* and *business*. Islam perceives all human activities are integrated and they should not be seen as exclusive from one to another. If those activities, e.g. business, rituals, etc., are performed with the right intention, they will be accounted as *ibadah* in the eye of Allah and deserve rewards accordingly. Therefore, if Shari'ah is explored and understood in the right way, it would be very comprehensive and covers all elements of human life. Hence, financial matters, social and environmental issues are all concerns of the Shari'ah. This is supported by Khan (2001) where he asserts that in public life, the objectives of Shari'ah may be summarized as evolving a society in which the values of freedom, mutual trust, consultation, accountability, public welfare, transparency in public policy, the rule of law, and elimination of injustice, corruption and fraud are supreme.

2. LITERATURE REVIEW

Very limited studies have been devoted to Shari'ah audit. The society at large and the business world particularly, are still confined to conventional audit which focuses on financial statement audit. Even though certain groups of academicians have embarked on the idea of social or ethical audit which initiate a different view on auditing, however this movement is still challenged in terms of recognition (Gray et. al., 1996).

Since there are very limited studies exploring the auditing from Islamic perspective hence this study attempts to explore the writings which can be related to the field of this study. To date we have writings which attempt to explore the conceptual framework of auditing from Islamic perspective (e.g. Khan, 1985; Briston & El Ashker, 1986; Harahap; 2002), writings which highlight the auditing issues in Islamic banks (Al Abji, 1989; Janahi, 2000; Simpson & Willing, 2000) and the studies on the role, functions, responsibility and independence of Shari'ah advisors (for example Abu Mouamer, 1989; Abdallah, 1990; Abdul Rahman et al., 2004; Shafei, 2005).

Apart from the above, there are also studies that compare the different models of the roles of Shari'ah Supervisory Board (SSB) and external auditors in Islamic banks (Banaga, 1994), the notion of independence between SSB and external auditors (Karim, 1990) and possible interaction between the two parties (Hood & Bucheery, 1999). The relevance of Islamic auditing to the public audit institutions has for instance been explored by Khan (2001) who analyzes the role of Supreme Audit Institutions (SAIs) in the Islamic economy. The latest study which is more comprehensive in identifying the issues and challenges of Shari'ah compliance process in the IFIs is a paper by Grais & Pellegrini (2006) on corporate governance and Shari'ah compliance in institutions offering Islamic financial services. Their study has explored the limitations in relying the Shari'ah compliance assurance to the internal party (i.e. SSB) and proposed an effective framework to monitor and asses Shari'ah compliance.

Of the various concerns highlighted by those writings, there has been one common proposal stressed by the scholars which is the need for a proper theoretical, practical as well as regulatory framework of Shari'ah compliance assessment in the IFIs or even in the other Islamic institutions. This further signifies the importance of the systematic institution of the discipline of Shari'ah audit. Even though many scholars have regarded SSB as religious auditors and equate the functions of SSB as the functions of religious (i.e. Shari'ah) auditing (see for example Briston & El Ashker, 1986; Abu Mouamer, 1989; Karim, 1990; Abdallah, 1994; Hood & Bucheery, 1999), there seems a limitation in such assumption. As highlighted by several of the above studies, by considering the current structure of the SSBs there seem to be major concern of whether SSBs are well qualified and also independent enough to perform the duty of Shari'ah audit. There is also the question of whether the concept of Shari'ah audit be confined to the current functions of SSBs. On the other hand, empowering the external auditors to perform Shari'ah audit might also create a dilemma of whether they have necessary expertise and qualification in the field of Shari'ah.

The earliest study that could be traced with regards to Sharia'h audit is a study by Khan (1985) who provided one of the initial discussions on auditing in Islamic framework. He introduced the issue of Islamic auditing by exploring auditing practices in the early age of Islam. Deriving from that background, Khan (1985) proposed a framework of auditing in Islamic economy. Khan (1985) refers auditing in Islamic economy as a normative art which is inspired from the moral code of the Shari'ah. He opined that as opposed to auditors in the capitalist framework, auditors in the Islamic economy are not only answerable to the management and shareholders but also to the society at large. Auditors, while assessing the Shari'ah adherence of entity's financial statements, are expected to carry out their main responsibility of '*amr bil ma'ruf wa nahi 'an al-munkar* (enjoining the proper and forbidding the improper).

Al Abji (1989) seems to support Khan's (1985) argument where he criticized the function of conventional auditors in Islamic investment companies and banks. He did not specifically address the issue of Shari'ah audit; however his main concern is that function and responsibility of auditors have to be revised in order to meet the requirements of unique characteristics of investment in Islamic banks. As Khan (1985) distinguished the characteristics of auditors in capitalist framework versus Islamic economy, Al Abji (1989) with the same point of view also argued that official duty of the auditor changes in all its dimensions in accordance with the economic, political and social changes that take place. Thus, Al Abji (1989) contended that the establishment of Islamic economic system absolutely gives impact on the duties of auditors. By specifically looking at the issues of functions of auditors in Islamic banks, Al Abji's (1989) study further suggested to develop the responsibility of the auditors so as to cover the group of depositors and for depositors to form an organizational system (i.e. general assembly for depositors).

Karim (1990) analyzed the independence of auditors in a different cultural setting by comparing the notion of religious audit (performed by SSB) and external audit in Islamic banks. He argued that the perceived independence of the SSB is very much influenced by moral-religious values, while that of the external auditors is largely affected by economic factors. Karim (1990) also argued that another incentive for SSB's independence is due to the belief that a rational management would be very keen to adhere to religious precepts since the cost it would bear for a reported breach would be more than the cost it can impose on the SSB. He further elaborated that if religious auditors report any misrepresentation in the bank's financial statements that are due to a violation of Islamic principles then the consumers of these statements are likely to react in a manner which could be detrimental to the bank's management. Karim (1990) opines that ideally both SSB and external auditors should be from one organisational body since Islam does not recognize any separation between business and religion. Therefore, accounting principles compatible with Islamic law must be developed as guidance for those who conduct the financial audit for Islamic financial institutions or Islamic enterprise and be familiar with the various religious rulings which have a bearing on the financial matters of the bank.

Unlike the previous studies which were theoretical in nature, Hood & Bucheery (1999) initiated an empirical study on audit expectation gap between financial and religious

(Islamic) auditors in Bahrain. Hood & Bucheery (1999) further argued that religious audit in Bahrain seems to complement financial audit by external auditors. Nevertheless, they wondered if religious auditors have a set of religious statements to audit as compared to financial statements of financial auditors. By using sample size of 100 (79% response rate) which consist of auditors (Financial and Religious), auditees (Management and Internal Audit), users (Loan Officers and Investment Analysts), and general public (Undergraduates and Lawyers), they found that financial audit expectation gap does exist in Bahrain but not for religious auditors. They also found that financial auditors and religious auditors in Bahrain seem unaware of what each other does. Hood & Bucheery (1999) presumed that this finding might be due to respondents' lack of understanding on the subject of religious audit.

Another empirical study on Shari'ah audit is by Abdul Rahman et al. (2004) who provided preliminary assessment on the responsibility & independence of Shari'ah advisors of Islamic banks. The sample of the study consists of bank managers of Islamic banks and Islamic banking windows in Malaysia. The result of their study which was based on the perceptions of bank managers implied a significant need for a proper regulation on the role and function of Shari'ah advisors. The study also indicates the Shari'ah advisors to be more legally, socially and religiously responsible toward external shareholders. Abdul Rahman et al. (2004) found several factors which can improve the independence of the Shari'ah advisors. They are the existence of SSB, the level of Shari'ah background, the reputation of Shari'ah advisors, be members of National Shari'ah Advisory Council[193], and non-executive role of the Shari'ah advisors.

Obviously, by analyzing the existing literature and the current state of auditing for Islamic banks one should realize that Shari'ah auditing faces many unresolved issues. One of the fundamental absences in Shari'ah auditing is surely its theoretical foundation and besides that there are several other issues that need to be explored in this subject. Hence this study aims at instituting a more comprehensive understanding of Shari'ah audit, viewing Shari'ah audit in the context of Islamic financial institutions from a broader perspective where it is an independent discipline which encompass a bigger audit scope and hence serious concern should be undertaken to establish the subject systematically, and put it in practice accordingly.

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[193] This is not allowed in Malaysia

3. RESEARCH OBJECTIVE & RESEARCH METHOD

3.1 Research Objective[194]

Specifically, this research aims to explore the perceptions of accounting academicians, audit practitioners and Shari'ah scholars in Malaysia with regards to the issues of Shari'ah auditing. It is the vision of the researchers that through the opinions derived from the study, the subject of Shari'ah audit will be further enriched and nurtured as a distinct discipline.

To accomplish the above objective hence four research questions were formulated as follows:

1. *What should be the definition of Shari'ah audit?* This question examines the awareness of respondents of the term Shari'ah audit and its definition.

2. *Who should perform Shari'ah audit?* This question seeks to identify who are supposed to perform Shari'ah audit, what are the qualification and competence requirements for Shari'ah audit auditors, and who should appoint Shari'ah auditors.

3. *What should be the scope of Shari'ah audit?* This question encompasses the investigation on the business areas to be audited under Shari'ah audit, the extent of Shari'ah audit, timing of Shari'ah audit, and the importance and the content of Shari'ah audit report.

4. *What is the ideal regulatory framework of Shari'ah audit?* This question seeks to identify the framework of regulation and supervision of Shari'ah audit in terms of the regulatory body and its role, and also on standard application.

3.2 Respondents' Background

The respondents for this study comprise of the Muslim accounting academicians of public universities in peninsular Malaysia, Muslim audit practitioners in peninsular Malaysia, and members of Shari'ah committee of Islamic commercial banks (ICB) and Islamic subsidiaries of commercial banks (ISCB) in Malaysia. The first group of respondents for this study is Muslim accounting academicians which are defined as the Muslim lecturers teaching at the Accounting Program in public universities in peninsular Malaysia. The listing of accounting lecturers of each university has been extracted from its respective website to identify the total population of this group. It is decided to have 50% sample size from this group of respondents.

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[194] Since this study is considered as exploratory in nature, hence neither hypotheses nor prepositions have been developed.

Table 1 - Derivation of Sample Size for Accounting Academicians[195]

No.	List of Public Universities	Acctg. Program	No. of Acctg. Lecturers	Sample
1	Universiti Malaya (UM)	√	31	16
2	Universiti Kebangsaan Malaysia (UKM)	√	40	20
3	Universiti Teknologi Mara (UiTM)	√	86	43
4	International Islamic University (IIUM)	√	34	17
5	Universiti Putra Malaysia (UPM)	√	38	19
6	Universiti Utara Malaysia (UUM)	√	126	63
7	Universiti Sains Malaysia (USM)	√	9	5
8	Universiti Darul Iman Malaysia (UDM)	√	10	5
	Total Population/Sample		374	187

The second population for this study is Muslim audit practitioners. The listing of the auditors has been extracted from the list of delegates to the National Accounting Conference (NAC) 2006 which was held in November 2006. The list of delegates has been published in the website of the Malaysian Institute of Accountants (MIA). In addition, the researcher utilize several contact persons of the practical training audit firms listing from Department of Accounting, IIUM, to make up a bigger sample size.

Table 2 - Composition of Audit Practitioners Participating in this Study

No	Audit Practitioners	No. of Respondents
1.	Partners	41
2.	Principals	3
3.	Managers	48
4.	Audit Seniors	27
5.	Others	7
	Total	**126**

The third population of this study is the members of the Shari'ah Committee or Shari'ah Supervisory Board (SSB) of the Islamic commercial banks (ICB) and Islamic subsidiaries of commercial banks (ISCB) in Malaysia. Based on the data published by Bank Negara Malaysia, as in November 2006, there are two Islamic commercial banks and eight Islamic subsidiaries of commercial banks in Malaysia. Since the population is small, the sample size would consist of the entire population. The details of the population group are derived from the websites of respective Islamic commercial banks and Islamic subsidiaries of commercial banks in Malaysia. To obtain a high response rate, since we believe that most of SSB members are not working full time in IFIs and most of them are lecturers in various academic institutions in Malaysia, hence we also mailed the questionnaires to their respective universities. For those who are not known

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[195] Data presented here was retrieved on November 2006.

what their permanent job positions are, the researcher then only mail the questionnaires to the respective banks where they are sitting as the members of SSB.

Table 3 – Population/Sample Size of Shari'ah Committee Members

No.	ICB/ISCB	No. of Sharia'h Committee Members
1	Bank Islam	7
2	Bank Muamalat	4
3	HSBC Amanah	4
4	CIMB Islamic	5
5	Kuwait Finance House	6
6	RHB Islamic Bank	4
7	Affin Islamic Bank	4
8	AmIslamic Bank	3
9	Hong Leong Islamic Bank	3
10	EONCAP Islamic Bank	5
Total Population/Sample		**45**

3.3.   Questionnaire Design

The questionnaire is divided into six sections. The first section, Part A, aims at answering the first research question of the study. The second part of the questionnaire, Part B, intends to gauge the perceptions of the respondents on the appointment of Shari'ah auditors and their qualification requirements, which is the second research question.

Part C of the questionnaire is to address the research question number three which is what should be the scope and the scale of Shari'ah audit. The last research question of this study on the regulatory framework for Shari'ah audit is inculcated in the Part D of the questionnaire. Part E of the questionnaire is an open-ended question where the respondents are asked whether they have any suggestion or recommendation pertaining to Shari'ah audit. Finally, the last section of the questionnaire aims at identifying the demographic background of respondents.

4. FINDINGS & ANALYSIS

The responses were analyzed using descriptive statistics from SPSS for Windows version 11. To conduct "between-groups" analysis, this study will utilize Kruskal-Wallis Test, the non-parametric alternative to a one-way between-groups analysis of variance. Pallant (2003) highlighted that this type of non-parametric statistic allows the comparison of the scores on some continuous variables for three or more groups. Based on the Kruskal-Wallis test, if the significant level (presented as **Asymp. Sig.**) is a value less than .05 then

it can be concluded that there is a statistically significant difference across the three groups (Pallant, 2003).

4.1 Response Rate

The questionnaires were mailed to 187 accounting lecturers, 126 audit practitioners, and 45 Shari'ah committee members of Islamic Commercial Banks and Islamic Subsidiaries of Commercial banks in peninsular Malaysia (please refer to the previous section for details of sample derivation).

Out of the total of 359 questionnaires distributed, 100 were returned which results in an overall response rate of 28 percent. Of the total questionnaires returned, two questionnaires were intentionally left unanswered by the respondents and only few were incomplete. The incomplete questionnaires were considered usable in this study since the incompletion of certain parts of the questionnaires is regarded as minimal and does not affect the overall analysis. Table 4 provides the summary of the overall response rate for each group of respondents.

Table 4 - Response Rate

No.	Respondents	Total Distributed		Total Received		Total Used		Response Rate (%)
		No	%	No	%	No	%	
1.	Accounting lectures	187	52.1	62	62	60	61.2	33.2
2.	Auditors	126	35.1	27	27	27	27.6	21.4
3.	Shari'ah Committee	46	12.8	11	11	11	11.2	23.9
	Total	**359**	**100**	**100**	**100**	**98**	**100**	**27.9**

4.2 Demographic Analysis

To identify demographic information of the respondents, the respondents were requested to answer eight basic questions regarding gender, age, job/position, organization, highest qualification, specialization, professional qualification in accounting, and working experience. Since the information on job position, organization, and specialization are mostly unanswered by the respondents, these three particulars will not be presented in this section. Table 5, 6, and 7 summarize the demographic background of the respondents.

From Table 5, it can be seen that in overall, 45.9 percent of the respondents are male and 47.9 percent are female. Based on the group classification, accounting lecturers are however dominated by female respondents, whereby most of the respondents for the auditors and the Shari'ah scholars are male. In term of the age of the respondents, nearly

half of the respondents are within the range of 30 to 39 years old, 30 percent are within 40 to 49 years old, 12 percent are above 50 years and only 8 percent are within 20 to 29 years. Even though age might not be an absolute indication of level of maturity, however these figures somehow reflect that the majority of the respondents in this study are considered matured.

Table 5 - Respondents' Gender and Age

	Accounting Lecturers		Auditors		Shari'ah scholars		Total	
	N	%	N	%	N	%	N	%
Gender:								
Male	17	28.3	19	70.4	9	81.8	45	45.9
Female	37	61.7	8	29.6	2	18.2	47	47.9
Missing	6	10	-	-		-	6	6.1
	60	**100**	**27**	**100**	**11**	**100**	**98**	**100**
Age:								
20-29 years	5	8.3	3	11.1			8	8.2
30-39 years	33	55	14	51.9	1	9.1	48	49
40-49 years	12	20	8	29.6	6	54.5	26	26.5
Above 50 years	6	10	2	7.4	4	36.4	12	12.2
Missing	4	6.7		-	-	-	4	4.1
	60	**100**	**27**	**100**	**11**	**100**	**98**	**100**

Table 6 further illustrates the education and working experience of the respondents. In overall, 50 percent of the respondents possessed Master degrees while the rest were partly degree holders and PhD holders accordingly. While academicians and Shari'ah committee members mostly possess Master degrees, auditors on the other hand are degree holders and only 3 respondents are having Masters. This composition can be rationalized since auditors are mostly degree graduates and having Master qualification is perhaps not popular among the auditors.

In addition, 50 percent of the total respondents are having professional qualification in accounting. While 43% of the academicians have professional certification in accounting, majority of the auditors (81%) possess the certification and only one of the Shari'ah scholars has the certification. In term of working experience, more than 50% of the sample (54%) have been working for about 6-15 years. The rest of respondents are almost equally divided into the other ranges of working years. Given that majority of respondents posses Master degree and professional qualification in accounting and have been working for about 6-15 years, therefore it is expected that they would give fruitful and credible responses to this study.

Table 6 - Respondents' Educational Background & Working Experience

	Accounting Lecturers		Auditors		Shari'ah scholars		Total	
	N	%	N	%	N	%	N	%
Highest Qualification:								
Diploma	-	-	-	-	1	9.1	1	1
Degree	-	-	23	85.2	-	-	23	23.5

Master	44	73.3	3	11.1	2	18.2	49	50
PhD	14	23.3	-	-	7	63.6	21	21.4
Missing	2	3.3	1	3.7	1	9.1	4	4.1
	60	**100**	**27**	**100**	**11**	**100**	**98**	**100**
Professional Qualification in Accounting:							
Yes							
No	26	43.3	22	81.5	1	9.1	49	50
Missing	32	53.3	4	14.8	9	81.8	45	45.9
	2	3.3	1	3.7	1	9.1	4	4.1
	60	**100**	**27**	**100**	**11**	**100**	**98**	**100**
Working Experience:							
0 – 5 Years	10	16.7	3	11.1	-	-	13	13.3
6 – 15 Years	36	60.0	14	51.9	3	27.3	53	54.1
16 – 20 Years	6	10.0	7	25.9	2	18.2	15	15.3
Above 20 Years	6	10.0	3	11.1	5	45.5	14	14.3
Missing	2	3.3	-	-	1	9.1	3	3
	60	**100**	**27**	**100**	**11**	**100**	**98**	**100**

Since there is no significant variation in the job position of accounting academicians (Most of the respondents fill up their positions as "lecturer") and Shari'ah committee members, table 7 is solely dedicated to portray the job position of auditors. It can be seen that most of the auditors participating in this study are the owners or partners of the audit firms (37%) followed by managers (26%), supervisors (19%) and associates for only 7 %. More participation from higher level of audit practitioners would hopefully enrich the opinion gathered from this study.

Table 7 – Job Position of Auditors

	N	**%**
Partner	10	37
Manager	7	25.9
Supervisor	5	18.5
Associates	2	7.4
Missing	3	11.1
Total	**27**	**100**

4.3. Statistical Analysis for Each of the Research Questions

4.3.1. Research Question No.1

The first research question is to identify the importance of establishing the discipline of Shari'ah audit as well as its definition. This question examines the awareness of respondents of the term Shari'ah audit and the importance of establishing the discipline of Shari'ah audit. Since there has been no standardized and formal definition given to Shari'ah audit, this question also examine the appropriateness of the definition of "Shari'ah review" by AAOIFI to be equated to the understanding of Shari'ah audit.

4.3.1.1 The Awareness of the Term "Shari'ah audit"

As the issue of Shari'ah audit is closely associated with the position of SSB, hence as expected that most of the Shari'ah scholars (64%) are aware of the term "Shari'ah audit" as opposed to most of the auditors (70%) who are not aware or not sure of the term "Shari'ah audit". Whereby for the academicians, nearly 50% are aware of the term "Shari'ah audit" and the rest are not sure or not aware of such term.

Table 8 - Awareness of the term "Shari'ah Audit"

No.	Statement	Acctg. Lecturers		Auditors		Shari'ah scholars		Overall	
		N	%	N	%	N	%	N	%
1.	Awareness of the term "Shari'ah Audit":								
	Yes	28	46.7	7	26	7	63.6	42	42.8
	Not Sure	9	15	5	18.5	-	-	14	14.3
	No	22	36.6	14	51.8	3	27.3	39	39.8
	Missing	1	1.7	1	3.7	1	9.1	3	3.1
		60	**100**	**27**	**100**	**11**	**100**	**98**	**100**

4.3.1.2 The Importance of Developing the Discipline "Shari'ah Audit"

According to the findings in table 9, it can be inferred that the overall respondents highly believed the importance of establishing the discipline of Shari'ah audit (mean of 4.50), but to the lesser extent regard the appropriateness of the definition of "Shari'ah review" by AAOIFI to be equated to the understanding of Shari'ah audit. Even though the mean for statement no.3 on the appropriateness of the definition of "Shari'ah review" by AAOIFI to be equated to the understanding of Shari'ah audit is still considered high (4.23) but it is still much lower than the mean score for the previous statement.

Table 9 - The Importance of Developing the Discipline "Shari'ah Audit"

No	Statement	Acctg. Lecturers		Auditors		Shari'ah scholars		Overall		Kruskal-Wallis Test (Asymp. Sig.)
		N	Mean	N	Mean	N	Mean	N	Mean	
2.	It is important to develop another discipline namely "Shari'ah audit" apart from the	60	4.55	27	4.29	11	4.73	98	**4.50**	0.081

	existing auditing areas (e.g. financial audit, social audit, etc.)								
3.	The definition of Shari'ah audit for IFIs can be equated to the definition of "Shari'ah review" by AAOIFI which is: "An examination of the extent of an IFI's compliance, in all its activities with the Shari'ah"	59	4.15	27	4.37	11	4.27	97	4.23	0.831

Among the reasons put by some of the respondents who disagree to define Shari'ah audit based on such definition are; 1) Shari'ah review (AAOIFI) is not an audit, 2) compliance only is not sufficient – it must accord with the spirit of the Shari'ah – issue of substance over form, 3) the definition should not only limit to "activities" of IFIs but also "products and services", 4) to measure the extent of compliance it must have benchmark. As the definition of Shari'ah review by AAOIFI is not intended to comprehend the term Shari'ah audit therefore further effort need to be put, perhaps by AAOIFI, to formulate the proper definition of Shari'ah audit and implement it in the practice of IFIs all over the world.

Moreover, the term "review" should be understood differently from the term "audit". While the former implicate a lower assurance level, the latter has a more comprehensive assurance level. CPA Australia (2006: 44) stated that "Review engagement is a service where the auditor's objective is to provide a moderate level of assurance, being a lower level of assurance than that provided by an audit". Review has also been defined as "a formal assessment of an activity with the intention of suggesting or implementing changes" or a review "implies an audit type investigation that does not meet the full requirements of Generally Accepted Auditing Standards (GAAS)" (O'Regan, 2004: 224-225). Therefore, perhaps Shari'ah review should not be equated with the term Shari'ah audit as the understanding of the terminology between the two terms are significantly different.

Furthermore, the Kruskall-Wallis test reveals no significant difference between the three groups' opinions on the statement no.2 and no.3. This indicates that the respondents from various backgrounds are basically in the same inclination in their responses towards these two statements.

4.3.2. Research Question No.2

The second research question is to investigate the qualification requirements for Shari'ah auditors. This question seeks to identify who are supposed to perform Shari'ah audit, who should appoint the Shari'ah auditors and what are the qualification and competence requirements for Shari'ah auditors.

4.3.2.1 Who Should Perform Shari'ah Audit?

To investigate the respondents' perception on who should perform Shari'ah audit, the respondents were requested to select among the five categories which are; 1) conventional external auditor, 2) Islamic Jurists ('Ulama), 3) Internal auditors under supervision of SSB, 4) SSB, 5) Shari'ah auditors – a new group of professionals who are specifically certified in Shari'ah audit. Interestingly about 87% of respondents agree to the Shari'ah auditors (new group professionals who are specifically certified in Shari'ah audit) to perform the function of Shari'ah audit. This finding indicates a demand for the new profession so called Shari'ah auditors to be established instead of delegating to the existing other parties to perform the function of Shari'ah audit. The profession of Shari'ah auditors as proposed by this study is congruent to the concept of effective framework to monitor and assess Shari'ah compliance in IFIs as suggested by Grais & Pellegrini (2006) where they place Shari'ah audit firm as part of the external process of monitoring and assessing the Shari'ah compliance and SSB is positioned in the internal process accordingly.

Table 10 - Who should perform Shari'ah audit for IFIs

No	Statement	Acctg Lecturers		Auditors		Shari'ah scholars		Total	
		N	%	N	%	N	%	N	%
4a.	Conventional external auditors Yes								
	Yes								
	No	2	3.3	5	18.5	-		7	7.1
		58	96.7	22	81.5	11	100	91	92.9
		60	**100**	**27**	**100**	**11**	**100**	**98**	**100**
4b.	Islamic Jurists ('Ulama)								
	Yes	7	11.7	3	11.1	2	18.2	12	12.2
	No	53	88.3	24	88.9	9	81.8	86	87.8
		60	**100**	**27**	**100**	**11**	**100**	**98**	**100**
4c.	Internal auditors under supervision of Shari'ah Supervisory Board (SSB)								
	Yes	14	23.3	10	37	5	45.5	29	29.6
	No	46	76.7	17	63	6	54.5	69	70.4
		60	**100**	**27**	**100**	**11**	**100**	**98**	**100**
4d.	Shari'ah Supervisory Board Yes								
	No	16	26.7	5	18.5	2	18.2	23	23.5
		44	73.3	22	81.5	9	81.8	75	76.5
		60	**100**	**27**	**100**	**11**	**100**	**98**	**100**
4e.	Shari'ah auditors – A new group of professionals who are specifically certified in Shari'ah audit								
	Yes	53	88.3	22	81.5	10	90.9	**85**	**86.7**
	No	7	11.7	5	18.5	1	9.1	13	13.3
		60	**100**	**27**	**100**	**11**	**100**	**98**	**100**

4.3.2.2 Who Should Appoint Shari'ah Auditors?

For the appointment of Shari'ah auditors, 60% of the overall respondents perceive that the Shari'ah auditors should be appointed by a newly established regulatory and supervisory body which is dedicated to oversee the practice of Shari'ah audit. The reason could be that other parties might be perceived as not sufficiently independent to appoint the auditors. In the conventional auditing practice, it has been widely criticized that shareholders are not in the best party to appoint the auditors and this idea seems to also be agreed in the case of Shari'ah audit by the respondents who mostly disagree to the statement 5a

Table 11 - Who should appoint Shari'ah auditors for IFIs

No	Statement	Acctg Lecturers		Auditors		Shari'ah scholars		Total	
		N	%	N	%	N	%	N	%

5a.	Shareholders of the respective IFI through its AGM
	    Yes
	    No
		6
		 54
			10
			 90
				7
				 20
					25.9
					 74.1
						3
						 8
							27.3
							 72.7
								16
								 82
									16.3
									 83.7

		60	**100**	**27**	**100**	**11**	**100**	**98**	**100**

5b.	Bank Negara of Malaysia
	    Yes
	    No
		5
		 55
			8.3
			 91.7
				4
				 23
					14.8
					 85.2
						2
						 9
							18.2
							 81.8
								11
								 87
									11.2
									 88.8

		60	**100**	**27**	**100**	**11**	**100**	**98**	**100**

5c.	Islamic Financial Service Board (IFSB)
	    Yes
	    No
		23
		 37
			38.3
			 61.7
				16
				 11
					59.3
					 40.7
						1
						 10
							9.1
							 90.9
								40
								 58
									40.8
									 59.2

		60	**100**	**27**	**100**	**11**	**100**	**98**	**100**

5d.	A newly established regulatory and supervisory body dedicated to oversee the practice of Shari'ah audit
	    Yes
	    No
		46
		 14
			76.7
			 23.3
				14
				 13
					51.9
					 48.1
						5
						 6
							45.5
							 54.5
								65
								 33
									66.3
									 33.7

		60	**100**	**27**	**100**	**11**	**100**	**98**	**100**

4.3.2.3 The Competence & Qualification Requirements for Shari'ah Auditors

The respondents also highly believe the importance of establishing the competence and qualification requirements for Shari'ah auditors (Mean of 4.65). Interestingly the respondents subsequently demand the Shari'ah auditors to have a minimum qualification of degree or professional qualification in accounting and specialized certification in Shari'ah audit (mean of 4.53). Even though mean score for statement 7b is also considered high (4.31), however it is not as high as the score for statement 7c. This finding is congruent with the finding in the statement no 4 where the respondents support for the

establishment of the new professionals so called Shari'ah auditors who are specifically certified in Shari'ah audit. What more can be conveyed here that we need to start somewhere to institute profession of Shari'ah auditors by inculcating proper curriculum to the universities or even establishing a dedicated institution offering a professional certification in Shari'ah audit.

Since the significance level for statement no 6 is .023 therefore it suggests that there has been a significant difference between the three groups' responses on the statement no. 6. An inspection of the mean ranks for the groups further suggests that the Shari'ah scholars had the highest scores, with the auditors reporting the lowest. This could be due to the high awareness of the Shari'ah scholars on the nature of Shari'ah audit work and therefore they see the utmost significance of establishing a proper qualification and competence requirements for Shari'ah auditors.

Table 12 - Competence and Qualification Requirements of Shari'ah Auditors

No	Statement	Acctg. Lecturers		Auditors		Shari'ah scholars		Overall		Kruskal-Wallis Test (Asymp. Sig.)
		N	Mean	N	Mean	N	Mean	N	Mean	
6.	It is important for a body to set up qualification and competence requirements for Shari'ah auditors	59	4.68	27	4.48	9	5	95	**4.65**	**.023**
7.	Minimum qualification of the Shari'ah auditor:									
	a) Degree/Professional in accounting	38	3.76	21	4.29	4	3.75	63	3.94	.193
	b) Degree/Professional in accounting & Fiqh (Islamic Law)	43	4.42	24	4.08	6	4.50	73	4.31	.094
	c) Degree/Professional qualification in accounting and specialized certification in Shari'ah audit	54	4.54	24	4.37	10	4.90	88	**4.53**	.076

4.3.3. Research Question No.3

The third research question is to examine the scope of Shari'ah audit. This question encompasses the investigation on the business areas to be audited under Shari'ah audit, the extent of Shari'ah audit, timing of Shari'ah audit, and the importance and content of Shari'ah audit report.

4.3.3.1 Areas to be Audited Under Shari'ah Audit

From table 13 it can be seen that Zakat matter is still regarded as the most significant aspect to be audited in the IFI with mean of 4.66. Other areas which are regarded as important by most of the respondents are contracts and agreements (mean of 4.60), processes and procedures (mean of 4.58), financial system & reporting (mean of 4.47) and business policies (mean of 4.46). Except for those areas, unfortunately the respondents do not regard other aspects of business activities as highly important as the previously mentioned areas especially in the aspect of human resource management (mean of 3.90) and IT system (mean of 3.70).

Table 13 - Areas to be audited under Shari'ah audit:

No	Statement	Acctg. Lecturers		Auditors		Shari'ah scholars		Overall		Kruskal-Wallis Test (Asymp. Sig.)
		N	Mean	N	Mean	N	Mean	N	Mean	
8a.	Business policies	58	4.46	27	4.41	11	4.54	96	**4.46**	.772
8b.	Processes and procedures	59	4.54	27	4.55	11	4.82	97	**4.58**	.461
8c.	Contracts and agreements	59	4.59	27	4.52	11	4.82	97	**4.60**	.294
8d.	Financial system & reporting	60	4.53	27	4.41	10	4.30	97	**4.47**	.342
8e.	Human resource management	58	4.12	25	3.48	11	3.64	94	3.90	**.001**
8f.	Social activities & contribution	60	4.17	26	3.77	11	4	97	4.04	.071
8g.	Environmental impact of operations	59	4.17	26	3.65	11	3.91	96	4.00	.071
8h.	Marketing & advertising	59	4.15	26	3.50	11	4.36	96	4.00	**.002**
8i.	Reports & circulars	59	4.12	26	4.00	11	4.18	96	4.09	.671
8j.	Zakat calculation & payment	59	4.66	27	4.59	11	4.82	97	**4.66**	.474
8k.	IT system	56	3.70	27	3.78	11	3.54	94	3.70	.832

For the non-parametric test on the areas to be audited under Shari'ah audit, the study found significant difference across the three groups' responses for the statement 8e (human resource management) and statement 8h (marketing and advertising). Comparing the mean ranks for the three sets of scores, it appears that the accounting academicians put highest significance on the aspect of human resource management as compared with the other groups, and the auditors reporting the lowest. Perhaps this variation lies in the different perspectives of "theorist" (academicians) and "practitioners" (auditors) on this issue where the former might believe that human resource management is one of the areas that need to be concerned in an auditing process and the latter might not see the significance of this area or it is perhaps not practical (measurable) for them to audit this area of the IFIs operations.

With regards to the issue of "marketing and advertising", the mean ranks comparison shows that the Shari'ah scholars had the highest score whilst the auditors had the lowest.

One possible explanation is perhaps that Shari'ah scholars might see marketing and advertising as one of the sensitive issues in the IFIs operations. It is where perhaps Shari'ah violence could occur where Shari'ah principles might not be fully observed when introducing, marketing and advertising the IFIs products or services to the consumers.

4.3.3.2 To What Extent and When Should Shari'ah Audit Should be Performed?

Table 14 and 15 are concerned with the extent of Shari'ah audit and when it should be performed. It can be seen from table 14 that even though highest percentage of respondents (41%) prefer the adoption of sampling method in Shari'ah audit however the difference in the percentages among the three choices is not that significant. While 30% of the respondents argue for Shari'ah audit to be performed for every single activity of the IFI, for instance another 28% leave it to the auditors to decide (as deemed adequate by the auditors). These results signify that the respondents are significantly varied in their selection to which extent Shari'ah audit should be performed. Since the term "Shari'ah compliance" implies a broader understanding, responsibility and accountability (i.e. in this world and hereafter), there could be a dilemma of whether the audit to attest such compliance is sufficient by relying on the sampling method or the satisfactory opinion by the auditors, or we should go beyond those assumptions by checking and assuring every single activity of the IFIs are in compliant with the Shari'ah precepts. To opt for full audit might be time consuming and costly or some people might claim it is inefficient. On the other hand, how the auditors would be responsible and accountable of their opinion if it is based only on partial audit (i.e. by using sampling method). Here further intense scholarly discussions and research by the prominent scholars in Islamic accounting are needed to resolve this issue.

Table 14 - To What Extent Shari'ah Audit should be Performed?

No	Statement	Acctg. Lecturers		Auditors		Shari'ah scholars		Overall	
		N	%	N	%	N	%	N	%
9a.	Every single activity	20	33.9	5	18.5	4	44.4	29	30.5
9b.	As assumed satisfactory by the auditors	19	32.2	6	22.2	2	22.2	27	28.4
9c.	Using sampling method	20	33.9	16	59.3	3	33.3	**39**	41.1
		59	**100**	**27**	**100**	**9**	**100**	**95**	**100**

Table 15 - When Should Shari'ah Audit be Performed?

No	Statement	Acctg. Lecturers	Auditors	Shari'ah scholars	Overall

		N	%	N	%	N	%	N	%
10a.	Throughout financial year	32	53.3	15	57.7	3	33.3	**50**	52.6
10b.	During new product application	-	-	3	11.5	1	9.1	4	4.2
10c.	At the end of financial year	28	46.7	8	30.8	5	55.6	41	43.1
		60	**100**	**26**	**100**	**9**	**100**	**95**	**100**

As for the view of when Shari'ah audit should be performed, almost 53% of the respondents urge for Shari'ah audit to be performed throughout financial year, and 43% see it should be performed at the end of financial year and only 4% opine the audit to be performed only during new product application. This statement is very closely linked to the above statement. Apart from the variation of the responses for the statement 9, the results of the statement 10 somehow signal that the respondents are in favour of more extensive or more comprehensive audit for IFIs since more than 50% of them opt for Shari'ah audit to be performed throughout financial year.

4.3.3.3 The Importance and content of Shari'ah Audit Report

The following table for instance presents the findings on the importance of Shari'ah audit report. With no statistical difference across the three groups' opinions, the mean score of 4.64 confirm that the respondents highly believe in the utmost significance of issuing and publishing the Shari'ah audit report.

Table 16 - Importance of Shari'ah Audit Report

No	Statement	Acctg. Lecturers		Auditors		Shari'ah scholars		Overall		Kruskal-Wallis Test (Asymp. Sig.)
		N	Mean	N	Mean	N	Mean	N	Mean	
11.	It is important for Shari'ah auditors to issue and publish Shari'ah audit report.	60	4.70	27	4.44	11	4.82	98	**4.64**	.051

Even though the Shari'ah audit report is strongly perceived important, there is as yet no detailed Shari'ah audit report issued by any IFI in Malaysia. Therefore, it is the aim of the findings in table 17 to identify what are supposed to be the content of the report. As shown in table 17, all of the proposed contents of Shari'ah audit report are perceived important at varying degrees. Among the most significant matters to be included in the report are; the opinion on the extent of Shari'ah compliance (mean of 4.68), process and procedures taken in performing Shari'ah audit (mean of 4.65), findings i.e. detailed breach and violence of Shari'ah principles by IFIs (mean of 4.64), and the objective of Shari'ah audit (mean of 4.63).

Table 17 - The content of Shari'ah audit report

No	Statement	Acctg. Lecturers		Auditors		Shari'ah scholars		Overall		Kruskal-Wallis Test (Asymp. Sig.)
		N	Mean	N	Mean	N	Mean	N	Mean	
12.	The objective of Shari'ah audit	59	4.66	27	4.55	11	4.63	97	**4.63**	.402
13.	Process and procedures taken in performing Shari'ah audit	60	4.70	27	4.52	11	4.73	98	**4.65**	.281
14.	Opinion on the extent of Shari'ah compliance	59	4.69	27	4.59	11	4.82	97	**4.68**	.270
15.	Findings (e.g. detailed breach and violence of Shari'ah principles by IFIs)	60	4.70	27	4.48	11	4.73	98	**4.64**	.281
16.	Implications	60	4.60	26	4.15	10	4.50	96	4.47	**.034**
17.	Recommendations for improvements	59	4.57	26	4.08	11	4.54	96	4.44	**.011**

The findings in table 17 clearly hint for an urgent call to go beyond from the current Shari'ah audit report, especially in the case of Malaysia, which only contain a short statement reporting that "the IFIs operation is in compliant with Shari'ah principles". A more detailed report is deemed necessary for; 1) the consumers to be assured that the IFIs are in compliance with the Shari'ah principles, 2) the Shari'ah auditors to be more accountable and transparent in their job, and for 3) the IFIs to identify their performance in term of Shari'ah compliance.

With regards to the "between-groups" analysis, the study found significant differences for the statements 16 and 17. The mean ranks for both statements indicate that the accounting academicians had the highest scores while the auditors report the lowest. We believe the work background between the academicians and the auditors have very much influenced their responses towards these statements. The academicians who are idealist in nature might see these two items as important to be included in the report while the auditors who are experienced in the auditing environment, are somehow neutral of whether the items are appropriate to be included as these matters might be considered sensitive and should not be disclosed to the public.

4.3.3.4 The Extension of Shari'ah Audit to Other Islamic Institutions

Apart from examining the importance of Shari'ah audit report and its contents, this section also seeks to explore the possibility of extending the concept of Shari'ah audit to other Islamic institutions such as Islamic companies or Waqf & Zakat institutions. As shown in table 18 there is a high demand for the concept to be also applied to other

Islamic institutions besides the IFIs. This is evidenced by a high mean score of 4.66 resulted and there is no significant difference between the group means.

In addition, the respondents were also requested to give their view on need to rank the performance of IFIs based on the outcomes of Shari'ah audit. However such need is not perceived to be strongly important (mean 4.02) as compared to the previous statement. There are no statistically significant differences in the responses between the three groups on these two statements.

Table 18 - The extension of Shari'ah Audit to Other Islamic Institutions

No	Statement	Acctg. Lecturers		Auditors		Shari'ah scholars		Overall		Kruskal-Wallis Test (Asymp. Sig.)
		N	Mean	N	Mean	N	Mean	N	Mean	
18.	Shari'ah audit should be extended to other Islamic institutions (e.g. Islamic companies, Waqf & Zakat institutions etc.)	60	4.68	27	4.63	11	4.64	98	**4.66**	.665
19.	The performance of IFIs (based on Shari'ah audit) should be ranked.	60	4.08	27	3.85	11	4.09	98	4.02	.323

4.3.4. Research Question No.4

The last research question is to investigate the regulatory framework of Shari'ah audit. This question seeks to identify the framework of regulation and supervision of Shari'ah audit in terms of the regulatory body and its role, and also on the standards to be applied in performing Shari'ah audit.

4.3.4.1 The Regulatory Body for Shari'ah Audit

As the findings in table 19 imply that in overall the respondents highly perceive the importance of establishing an external independent body to oversee the practice of Shari'ah audit. Specifically, they mostly agree to the prominent Islamic and accounting scholars to be members of the body, followed by the representative from country's central bank.

The proposed roles of such body have been seen important by the respondents at varying degrees. Predominantly the body is expected to regulate the standards in performing Shari'ah audit (mean of 4.60), evaluating the practice of Shari'ah audit (mean of 4.48),

promoting research and education in Shari'ah audit (mean of 4.36), licensing, appointing, supervising, monitoring and disciplining the Shari'ah auditors (mean of 4.35), and ranking the performance of IFIs in term of Shari'ah compliance (mean of 4.26). Apparently there are statistical significant differences of the three groups' opinions on all the statements in the table 19.

Table 19 - The Regulatory Body for Shari'ah Audit

No	Statement	Acctg. Lecturers		Auditors		Shari'ah scholars		Overall		Kruskal-Wallis Test (Asymp. Sig.)
		N	Mean	N	Mean	N	Mean	N	Mean	
20.	It is important to set up an external independent body to oversee the Shari'ah audit practice	59	4.49	26	4.34	11	4.45	96	**4.45**	.665
21.	The members of the body:									
	a) Prominent Islamic and accounting scholars	59	4.63	27	4.41	11	4.64	97	**4.57**	.286
	b) Representative of country's central bank	58	4.24	26	4.27	7	4.00	91	4.23	.670
	c) Partners of big audit firms	56	3.86	26	3.54	8	3.62	90	3.74	.718
22.	Roles of the body:									
	a) Regulating the standards to be adopted in performing Shari'ah audit	60	4.62	26	4.46	10	4.90	96	**4.60**	.117
	b) Promoting research and education in Shari'ah audit	60	4.35	25	4.40	10	4.30	95	4.36	.893
	c) Licensing, appointing, supervising, monitoring and disciplining the Shari'ah auditors	60	4.48	26	4.11	10	4.20	96	4.35	.325
	d) Evaluating the practice of Shari'ah audit	59	4.56	26	4.23	10	4.70	95	**4.48**	.060
	e) Ranking the performance of IFIs in term of Shari'ah compliance (based on the result of Shari'ah audit)	60	4.27	26	4.12	10	4.60	96	4.26	.236

4.3.4.2 **The Standards to be Applied in Shari'ah Audit Performance**

Finally, table 20 indicates that AAOIFI Shari'ah standards (mean of 4.53) as well as AAOIFI accounting standards (mean of 4.44) are viewed as the most appropriate standards to be applied in Shari'ah audit followed by local Shari'ah standards (mean of 4.32). It is clear that the standards promulgated by AAOIFI are regarded as the most

appropriate guidelines in conducting Shari'ah audit for IFIs. However significant effort has to also be made to ensure its enforcement in the practice.

Table 20 - The Standards to be Applied in Shari'ah Audit Performance

No	Statement	Acctg. Lecturers		Auditors		Shari'ah scholars		Overall		Kruskal-Wallis Test (Asymp. Sig.)
		N	Mean	N	Mean	N	Mean	N	Mean	
23a.	AAOIFI accounting standards	57	4.39	23	4.39	11	4.82	91	**4.44**	.116
23b.	AAOIFI Shari'ah standards	60	4.50	22	4.50	10	4.80	92	**4.53**	.338
23c.	Central bank's standards	58	4.09	21	3.81	10	4.70	89	4.09	**.021**
23d.	Local Shari'ah standards	57	4.35	22	4.18	10	4.50	89	**4.32**	.767
23e.	International auditing standards	57	3.88	21	4.00	10	4.40	88	3.97	.140
23f.	Local accounting standards	54	3.83	18	3.94	10	4.40	82	3.93	.074

4.4. Summary of the Findings

To summarize the above findings, the following are the main findings of this study:
- It is important to develop the discipline of Shari'ah audit and define the subject in a comprehensive manner.
- Shari'ah audit should be performed by new professionals called "Shari'ah auditors" who are specifically certified in Shari'ah audit and they must be appointed by a new independent body dedicated to oversee the practice of Shari'ah audit.
- It is important to establish and standardize the qualification and competence requirements for Shari'ah auditor who are supposed to have minimum degree/professional qualification in accounting and specialized certification in Shari'ah audit.
- Among the areas of the business activities that should be looked intensely in Shari'ah audit work are; Zakat calculation and payment, contracts and agreements, processes and procedures, financial system & reporting, and business policies. However, the scope of Shari'ah audit work should also probably be extended to other aspects such as marketing & advertising, human resource management, and social & environmental contributions, as Shari'ah encompasses every aspect of human life.
- In performing Shari'ah audit, it is important to find a mechanism besides the sampling method as the nature of the responsibility and accountability is different from the conventional one.
- It is important to issue and publish Shari'ah audit report which should contain the objective of Shari'ah audit, process and procedures taken in performing Shari'ah audit, the opinion on the extent of Shari'ah compliance, , findings i.e. detailed

breach and violence of Shari'ah principles by IFIs, , implications, and recommendations for improvement.

- Shari'ah audit should be extended to other Islamic institutions such as waqf & Zakat institutions and Islamic companies.
- It is important of establishing an external independent body to oversee the practice of Shari'ah audit which might consist of the prominent Islamic and accounting scholars and the representative from country's central bank.
- Predominantly the body is responsible to regulate the standards in performing Shari'ah audit, evaluating the practice of Shari'ah audit, promoting research and education in Shari'ah audit, licensing, appointing, supervising, monitoring and disciplining the Shari'ah auditors, and ranking the performance of IFIs in term of Shari'ah compliance.
- AAOIFI Shari'ah standards, AAOIFI accounting standards, and local Shari'ah standards are viewed as the most appropriate standards to be applied in Shari'ah audit.

4.5. Limitations and Potential Research

Despite its contribution as a preliminary survey in a very new emerging field, this study is limited in the sense it is still exploratory in nature. Due to limited literature available in this field, therefore, there is no specific theory existing on this subject. However, with support by other relevant literature perhaps this study can be one of initial effort in building up an established theory for Shari'ah audit.

Another limitation is the instrument used in this study which is the self-administered questionnaire. Since it was developed by the researchers themselves and has not been tested widely, it might have deficiencies and perhaps its content might not have been covered to an appropriate degree of breadth to meet the objective of the study. In addition, the response rate of this study is considered quite low. Even though it is still acceptable, a low response rate could affect the generalization of the result.

Potential research to be conducted in this area can be on the same topic but with different groups of respondents and different country, or on Shari'ah audit reporting style, comparative studies of Shari'ah audit practices across the Muslim countries, or case studies of different Islamic banks in implementing Shari'ah audit, etc.

5. CONCLUSION

This paper discusses the perceptions of accounting academicians, audit practitioners, and Shari'ah scholars, especially in the context of Malaysia, on the fundamental issues of Shari'ah audit. This study has attempted to investigate the respondents' perceptions towards the understanding of the term "Shari'ah audit", the appointment of Shari'ah auditors as well as their qualification requirements, areas to be audited under Shari'ah audit, the content of Shari'ah audit report, regulatory framework for Shari'ah audit practice, and the standards to be applied in performing Shari'ah audit.

Currently, the structures and processes established within an Islamic Financial Institutions (IFIs) for monitoring and evaluating Shari'ah compliance rely essentially on the arrangements internal to the institutions, i.e. SSB (Grais & Pellegrini, 2006). This arrangement has its advantages as well the limitations. While the paper of Grais & Pellegrini (2006) has suggested a framework for an effective assurance of Shari'ah compliance which include the internal and external process, this study has extended their study by examining the framework of Shari'ah audit which fall under the external process of their proposed framework.

Despite the different profession of the respondents, this study found the common agreement of the respondents towards establishing the discipline of Shari'ah audit and develop the necessary framework and infrastructure for the discipline accordingly. In conclusion, this study found an urgent call for the systematic development of the discipline Shari'ah audit. It involves from the very basic of: 1) defining the subject in an appropriate manner, 2) standardizing the qualification and competence requirements for Shari'ah auditors who are well equipped not only with accounting and auditing techniques but also specifically certified in Shari'ah audit, 3) identifying the scope, the extent, and the timing of Shari'ah audit, 4) regulating and standardizing the content of Shari'ah audit report, 5) establishing the independent body to regulate and enforce the standards and empower this body with other relevant roles such as to evaluate the practice of Shari'ah audit and to promote the research and education in Shari'ah audit, and 6) applying the AAOIFI standards into the practice of Shari'ah audit.

It is clearly a long overdue for the relevant parties to resolve the above issues. While this paper might not give the complete remedy to this very new emerging field, it however has provided pointers for further research and discussions to this area. Hopefully the proposed ideas in this study can be further utilized for the benefit of the enrichment of the subject of Shari'ah audit.

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4.3 Corporate Finance

THE COST OF EQUITY EFFECTS OF ACCRUALS QUALITY AND OWNERSHIP STRUCTURE

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Abstract

This study examines the cost of equity effects of two sources of information risk; the quality/precision of information and the information asymmetry between the ultimate controlling shareholder/party and other shareholders, for a sample of Malaysian listed companies. The quality of information is proxied by the quality of earnings. Three measures of earnings quality are used; discretionary total and current accruals based on modified Jones (1991) model and accrual quality based on the Dechow and Dichev (2002) model. Asymmetric information between the controlling and other shareholders/parties is measured by the cash flow/voting rights of the controlling party/shareholder. This study also examine if the other substantial shareholder has a cost of equity effect for the role in reducing information asymmetry and in leaking proprietary information to the public. Consistent with previous research, all the earnings quality measures are significantly associated with the cost of equity estimated based on Ohlson and Juettner-Nauroth (2000). Whilst there is no evidence of relationship between cash flow/voting rights and cost of equity, there is a significant and consistent negative association between substantial shareholders' voting rights and cost of equity.

1. Introduction

This study examines whether the quality of information in terms of the imprecision of information and in terms of the domain of information (that is whether private or public), explains differences in cost of equity. There have been many studies that examine the imprecision of information as proxied by earnings quality, and cost of equity (Botosan

(1997), Botosan and Plumlee (2001), Chen, Chen and Wei (2003), Francis, LaFond, Olsson ans Schipper (2004)). However, there is a dearth of studies especially in the Asian region, that examines whether the domain of information brought about by the characteristics of ownership structure has a cost of equity effect. Given the well documented evidence of Asian companies' ownership being concentrated and being characterized by high degree of separation of ownership and control, it is important to examine if such ownership structure is priced.

Samples of companies taken in past studies by Claessens, Djankov and Lang (2000) and Fan and Wong (2002) that include Malaysian companies indicate the existence of ownership concentration through shareholding of multiple layers of companies, thus the term pyramidal structure. This type of shareholding creates a disparity between cash flow rights (associated with ownership) and voting rights (associated with control). Though s55 of the Malaysian Companies Act 1965 requires one share to have one vote to prevent such disparity, in substance in pyramidal structure such disparity exists. Such disparity enhances the control of the ultimate shareholder beyond what is afford to him by his apparent direct shareholding.

In a study by Francis, Schipper and Vincent 2005 based on US companies where there is a provision to issue shares that carry more than one vote it is found that the shareholders who hold the inferior shares with one vote each discount the price of shares accordingly knowing the voting power of the other class of shares.

In Malaysia it is common for companies to be held by a few substantial shareholders with shareholdings far higher than the threshold 5%, instead of just one substantial shareholder with the majority controlling rights, even though one may be with the highest shareholding and the apparent controlling party,. The

1223

following extracts from annual reports of ACP Industries Berhad illustrates this type of ownership concentration.

Table 1.1 *ACP Industries Berhad- Analysis of Shareholdings as at 16 August 2004*

	Direct Interest		Indirect Interest	
Shareholders	**Number of Shares**	**%**	**Number of Shares**	**%**
Metacorp Berhad	38,734,790	29.02		
MTD Capital Berhad			38,734,790	29.02
Lambang Simfoni Sdn Bhd			38,734,790	29.02
Employees Provident Fund Board	20,499,000	15.36		

Metacorp Berhad, MTD Capital Berhad and Lambang Simfoni Sdn Bhd are companies under the control of Dato' Dr Nik Hussain Abdul Rahman and his family members. Dato' Dr Nik Hussain and family are the controlling shareholder. However, the Employees Provident Fund Board with shareholding of around 15% could play a significant role in monitoring the controlling party actions.

The existence of substantial shareholders i.e shareholders other than the ultimate controlling shareholder, who own more than 5% could potentially reduce the information asymmetry between the controlling and non-controlling shareholders. According to Kaplan and Minton (1994), Pound (1988) and Shleifer and Vishney (1986) a substantial shareholder has a role in controlling agency problems by actively monitoring the controlling party who in a widely held company, is the management. Similar role could be played by substantial shareholders in companies with concentrated ownership.

This study, although is limited by the sample size and is limited to Malaysia, contributes towards the literature on the cost of equity effect of asymmetric information, by characterizing asymmetric information brought about by ownership structure. This study also examines the cost of equity effect of earnings quality as the earnings quality

as shown by previous studies is a primary driver of the cost of equity/capital, and if the cost of equity effect of ownership structure is distinct from earnings quality.

2. Literature review

2.1 Information risk and cost of capital

In extant asset pricing theories such as the Capital Asset Pricing Model (CAPM) and Arbitrage Pricing Theory (APT) the only risk that is priced is the systematic risk of a company. Other idiosyncratic risks such as information quality are not priced as investors could diversify away such risks by holding a portfolio of large number of shares. Easley and O'Hara (2001) and Leuz and Verrechia (2005) establish a theoretical link between information risk and companies cost of capital counter to extant theories. Easley and O'Hara (2001) show that the composition of public and private information could influence a company's cost of capital. Investors would want higher return from companies that have more private and less public information. The high return reflect the risk that uninformed investors have to face by holding shares of such companies. Thus information risk is a type of systematic risk that is priced. Leuz and Verrechia (2005) demonstrate that higher information quality lowers the cost of capital because information quality could actually affect a company cash flow and not just perceived cash flow. In other words if the quality of information such as earnings is suspected then intuitively investors would want a higher return on their investment to compensate for the risk that they are taking.

2.2 Ownership structure – separation of ownership and control, and information risk

Ownership structure of a company refers to the distribution of control and ownership in the company. Control is the ability to affect decisions and for shareholders

this is represented by voting power. While ownership is the right to cash flows of the company and is proportionate to shareholdings. In general, the separation of ownership and control of companies results in information asymmetry and agency related problems namely moral hazards, between those in control of and those who are not.

In early studies such as Berle and Means (1932) and Jensen and Meckling (1976), the problem has always been characterized along the conflict of interest between a manager who is in control and shareholders who own the company and bears the cash flow consequences of any action. Managers do not own significantly any shares. However more recent studies characterize the conflict as between the controlling shareholders (who could also be the manager), i.e shareholders who have acquired sufficient number of shares to be able to affect decisions, and the other or non-controlling shareholders (Shleifer & Vishny 1997).

However as the cash flow rights of controlling party increases, there is more wealth maximizing benefits to the company as there would be less expropriating tendency by the controlling party and less monitoring costs (Jensen and Meckling (1976)). The results of the following empirical studies are consistent with this analysis.

Claessens, Djankov, Fan and Lang (1998a), examine expropriation of non-controlling shareholders' wealth in the context of corporate diversification policy for 2000 companies in nine East Asian countries in the period between 1991 and 1996. They found that diversification is associated with the disparity between cash flow and control rights. Further, there is evidence that the larger the disparity the more the diversification. This is proven true especially at higher level of control. The larger the disparity the more incentive to expropriate as the link between the controlling shareholders' wealth and the company performance is weaker.

In a separate study, Claessens, Djankov, Fan and Lang (1998b), establish the existence of expropriation by examining the association between each of cash flow and

control rights, and market value. The study is a cross sectional study of 2658 companies in East Asia in 1996. The found negative association between control rights and market value, and positive association between cash flow rights and market value. This is especially so when cash flow rights are low and control rights are high, which they conclude, suggest expropriation of non-controlling shareholders' wealth.

Ownership could become separated from control through holdings of shares with different voting power, or through holdings of shares in a pyramid structure. This latter type of control is reported to be more common in East Asia, for example in Malaysia as described earlier. Harris and Raviv (1988) and Grossman and Hart (1988), analyze theoretically the separation of control and ownership problem through the holdings of dual class of shares. They conclude that such separation leads to lower accountability and specifically lead to situations where the controlling party could take actions to maximize his utility while bearing costs not in proportion to the shareholdings.

There has not been any studies in the US that test ownership structure and the cost of equity. This is so because in the US ownership is diffused and if disparity of cash flow and voting rights exists they are through the existence of dual class shares and at low level of control. Also the existence of dual class shares requires disclosure and therefore is transparent. Fan and Wong (2002) although examine ownership structure and earnings informativeness, it is on the premise that concentrated ownership through pyramidal ownership structure inhibits information to the public.

Whilst earnings quality poses risk in terms of reliability/precision of information, ownership structure poses risk in terms of amount of information that is private. The more private the information the higher the required return. This is the essence of the theoretical studies of Easley and O'Hara (2004) and Leuz and Verrecchia (2004) as discussed in Francis et al (2004).

A study by Chen et al (2003) examine the effects of various corporate governance mechanisms and disclosure level on the cost of equity. They found significant negative association between corporate governance mechanisms and disclosure level, and cost of equity. Their study was on Asia's emerging markets which include 42 Malaysian listed companies.

2.3 Earnings quality and information risk

A number of researches explore the link between information quality as proxied by a number of measures, and cost of equity. As most studies focus on the usage of information by equity investors, the measure for required return is the cost of equity. Botosan (1997) examines the relationship between disclosure level and cost equity. She developed a voluntary disclosure index from information in annual reports as proxy to disclosure level or quality. Estimates of cost of equity are based on the valuation formula developed by Edwards and Bell (1961), Ohlson (1995) and Feltham and Ohlson (1995) which states that market price of a company's share is equal to the sum of expected dividends discounted at the company's cost of equity. Botosan (1997) found a negative association between disclosure level and cost of equity, after controlling for market risk (beta) and company's size for companies that attract a low analyst following. However no significant association was found for companies that have high analyst following. The reason for this is that the disclosure index may not capture fully the level of information provided to investors as analysts play a significant role in disclosure.

Botosan and Plumlee (2001) reexamine the association between disclosure and cost of equity by segregating different forms of disclosure quality i.e level and timely. Findings for relationship between disclosure level and cost of equity confirm previous results. However a positive association was found between timely disclosure and cost of

equity which is contrary to theoretical assertion. An explanation for this is that timely disclosure increases volatility of share prices and hence cost of equity.

Francis et al (2004) examine the relationship between earnings attributes as proxy to information quality and cost of equity. Earnings attributes are categorized as market based and accounting based, each as described earlier. As a whole their findings confirm previous results of negative relationship between earnings quality and cost of equity. When considered individually the accounting based earnings attributes, in particular accrual quality, have larger effect on cost of equity than market based attributes.

3. Methodology

3.1 Data sources

The required accounting data, market value, book to market value, prices and beta are obtained from Datastream data base for the financial year end 2004 or as at financial year end 2004 as applicable. For the purpose of estimating accrual quality accounting data for year 2003 and 2005 are also required. Estimated earnings per share for years 2005 and 2006 required for calculating cost of equity are downloaded from Bloomberg data base services in January 2005.

3.2 Sample profile

The sample comprises of companies with IBES's estimated earnings per share for year 2005 and 2006. The sample size is first reduced due to the availability of data for the estimation of cost of equity (Table 3.1). Since the data requirements varies for the calculation of the earnings quality measures, the composition of companies are further reduced into two samples- 1) ABRES and 2) ABSDATCA/ABSDATA (Table 3.2).

ABRES denotes the accrual quality as measured by the absolute residual from the regression of total current accrual on current, last and next period cash flows. ABSDATCA/ABSDATA denotes the discretionary current accruals and discretionary total accruals.

Table 3.1 Sample

Number of companies with estimated earnings forecasts	213
Eliminated due to change in accounting year end and insufficient data to calculate cost of equity	10
	203

Table 3.2 Sample size based on available data for the calculation of earnings quality variables

		(%)**Market Capitalization**
ABRES	141	31
ABSDATCA /ABSDATA	151	32

3.3 Variable definition and measurement

3.3.1 Accruals quality

There are two measures of accrual quality as operationalized in Aboody, Hughes and Liu (2005) based on models developed by Jones 1991, Dechow, Sloan and Sweeney (1995) and Dechow and Dichev (2002) . The first measure of accruals quality is defined as the amount of discretionary accruals (DA) or abnormal accruals. Large DA is associated with low quality. First non-discretionary accruals (NDA) is measured from a model developed by Jones 1991 and subsequently modified by Dechow et al 1995. This modified version is used in many earnings management studies. The estimation is done in the following way (time t refers to year 2004):

$$NDA_t/ A_{t-1} = \alpha(1/A_{t-1}) + \beta (\Delta REV_t - \Delta REC_t)/ A_{t-1} + \gamma PPE_t/ A_{t-1}$$

Where,

NDA_t - Non-discretionary accruals at time t

A_{t-1} — Total assets at t-1

ΔREV_t — Change in revenues

ΔREC_t — Change in receivables

PPE_t — Plant, property and equipment at t

The coefficients α, β and γ are estimated from coefficients a, b and c of the following cross-sectional regression by industry :

$$TA_t/A_{t-1} = a\,(1/A_{t-1}) + b\,\Delta REV_t/A_{t-1} + \gamma PPE_t/A_{t-1} + \delta_t$$

Then, $\qquad DA = TA_t/A_{t-1} - NDA_t/A_{t-1}$

Where,

$\qquad$ TA = Total accruals

$\qquad\qquad$ = Change in current assets – Change in current liabilities –

$\qquad\qquad$ Change in cash + Change in short term debt – Depreciation

In the following analysis the absolute DA is taken and the acronym ABSDATA (absolute discretionary total accruals) is assigned to the variable. The following analysis will also use the current accrual variation of the above model as given below.

$$NCA_t/A_{t-1} \quad = \quad \alpha(1/A_{t-1}) + \beta\,(\Delta REV_t - \Delta REC_t)/A_{t-1}$$

Where,

$\qquad NCA_t$ — Non-discretionary current accruals at time t

The coefficients α, β and γ are estimated from coefficients a, b and c of the following cross-sectional regression by industry :

$$TCA_t/A_{t-1} = a\,(1/A_{t-1}) + b\,\Delta REV_t/A_{t-1} + \delta_t$$

Then discretionary current accruals (DCA),

$$DCA_t = TCA_t/A_{t-1} - NCA_t/A_{t-1}$$

Where,

$\qquad TCA_t$ = Total current accruals

1231

      = Change in current assets – Change in current liabilities – Change in cash + Change in short term debt

  In the analysis the acronym ABSDATCA (absolute discretionary total current accrual) is used. The Bursa Malaysia classification of industry is used for the cross sectional regression. The larger the discretionary accruals whether based on total accruals (ABSDATA) or total current accruals (ABSDATCA) the poorer the earnings quality.

  The second measure of accrual quality is based on Dechow and Dichev (2002) model. It simply measures quality as how well accruals map current cash flows to last and future cash flows. It is the residual from the regression of changes in working capital of past, current and future cash flow. This study will use the cross sectional version operationalized in Aboody et al. as follows.

$$TCA_{j,t} / Avasset_{j,t} = a + b\ CFO_{t-1} / Avasset_{j,t} + c\ CFO_t / Avasset_{j,t} +$$
$$d\ CFO_{t+1} / Avasset_{j,t} + \delta_t$$

Where,

CFO = cash flow

   = net income before extraordinary item – TA (total accruals)

   Avasset - average asset ovet t and t-1

  The coefficients a,b,c and d will be applied to individual companies current, past and future cash flows.

  The difference between the predicted and actual company's total current accrual is the residual used as a measure of earnings quality. The acronym ABRES (absolute residual) is assigned to the variable. The larger the value of ABRES the poorer the quality of earnings as the current accruals do not map well with current, past and future cash flows. If the residuals is small, this means that the total current accruals is largely translated into cash flows.

3.3.2 Times series versus cross section versions of Jones 1991 and Dechow and Dichev 2002

This study uses the cross sectional regressions to obtain the relevant parameters in the respective models as in Aboody et al (2005). Francis et al 2004 uses the time series version to obtain the absolute residuals. The cross sectional version arguably provides 'noisy measure' due to differences across companies in the same industry (Francis et al (2004)), however the measure would not be bias towards companies that survive longer as would a measure from the time series version.

For the purpose of this research, on balance, the cross sectional approach is preferred as the time series approach provides parameters that are a company's own benchmark measures.. Previous study, Mohd Salleh 2003, on Malaysian data indicates that the cross sectional approach provides measures that produce significant results.

3.3.3 Ownership structure

Ownership structure refers to the distribution of control (measured by the voting rights) and ownership (measured by cash flow rights) or rights to benefits/cash. A controlling party holds more than 20% of shares. A controlling party can be an individual or a group of related individuals. A group of individuals are related if they are of the same family or hold the shares through a single common entity such as a company or a partnership. The relationship between individuals is analyzed from disclosure of analysis of shareholders' in the financial reports.

For this purpose companies are divided between those with pyramidal structure (PYS) and those without pyramidal structure (NPYS). For PYS companies both cash

flow and voting rights of companies are collected and for NPYS the cash flow and voting rights are equal.

Further, for PYS the ownership structure measure is the cash flow to voting rights ratio. The lower the ratio, the larger the disparity between cash flow and voting rights and the wider is the separation between ownership and control.

3.3.3.1. Calculation of the ownership structure variable

PYS companies. The calculation of cash flow and voting rights is based on the method used in Claessens et. al. (2000), and in other researches (Fan & Wong 2002). Voting rights is taken as the 'weakest link' in the chain of voting rights. The main weakness in this method is that it does not take into account the existence of other controlling shareholders. The inclusion of the other substantial shareholder addresses this weakness.

For the sampled companies in Malaysia the cash flow and voting rights chain will be extracted and analyzed from the shareholder's statistics pages of the annual report. It is also necessary to use information on the company profile, such as structure of the whole group of companies in which the company belongs, which is sourced from annual reports or the official website of the company. The following shows such calculations for ACP Industries Berhad.

The structure of ACP could be understood by also looking at Metacorp Berhad and MTD Capital Bhd shareholder's statistics. The group (refer to figure 3.1) could be traced to Dato' Dr Nik Hussain Abdul Rahman (NHAR), although there are other substantial shareholders. NHAR and family members are substantial shareholders of Nikvest Sdn Bhd and Alloy Consolidated Sdn Bhd.

Figure 3.1

Nikvest Sdn Bhd   Alloy Consolidated Sdn Bhd

21.18%   15%

MTD Captial Berhad

100%

Lambang Simfoni Sdn Bhd

74.17%

Metacorp Berhad

29.02%

ACP Industries Berhad

Cash flow rights
$= (21.18\% \times 74.17\% \times 29.02) + (15\% \times 74.17\% \times 29.02)$
$= 7.78\%$

Voting rights
$= 21.18\% + 15\%$
$= 36.18\%$

NPYS companies. NPYS companies will be analyzed into widely held or manager control, and not widely held. Widely held is the situation where none of the shareholders have more than 20% shareholdings. In other words no shareholder has gained effective control and therefore control is in the hands of manager. For these manager controlled companies, the voting rights equals the cash flow rights which is simply the percentage holdings of shares by the manager if any. This is consistent with Jensen and Meckling (1976) analysis, although they begin from 100% owner controlled situation without outside shareholdings. The agency related problems begins as outside shareholdings exist. Thus manager controlled situation is the agency problem at its worst.

Consider for the moment the interest alignment theory, the lower the voting rights held by the controlling manager the higher is the expectation of inappropriate behavior. Thus this is consistent with the reading of cash flow to voting rights ratio of PYS

companies and expectation of inappropriate behavior by the controlling party of the PYS companies.

For non-widely held companies, the cash flow/ voting rights of the shareholders with the highest shareholdings will be documented. Even though there is no disparity between cash flow and voting rights and considering the interest alignment theory, the lower the voting rights held by the controlling shareholder the higher is the expectation of inappropriate behavior. Thus this is consistent with the reading of cash flow to voting rights ratio of PYS companies and widely held companies described earlier, and expectation of inappropriate behavior by the controlling party of the PYS companies and widely held companies.

3.3.3.2 Substantial shareholders

Substantial shareholders are those with shareholdings of more than 5% and listed as such in the analysis of shareholders' statistics in the financial reports. Having identified the ultimate controlling party, the shareholder with the next highest shareholding is identified as the substantial shareholder. This substantial shareholder is therefore not related to the ultimate controlling party and expected to have a monitoring role. Referring to MTD Capital Bhd example earlier the substantial shareholder is the Employees' Provident Fund with voting rights of 9.11%. For this purpose Ruslan Sulaiman and Mohd Dom Ahmad, though appear not to have any family connections with Dato' Nik Hussain are deemed to be related as they all have interest in various companies. The truly unrelated is the Employees' Provident Fund.

3.3.4 Cost of equity

The measure of COE is estimated based on Ohlson and Juettner-Nauroth 2000 (OJN) and as operationalized in Chen et al 2003 as follows.

$$P_t = \frac{FEPS_{t+1}}{COE} + \frac{(FEPS_{t+2} - FEPS_{t+1} - COE \times FEPS_{t+1}(1-POUT))}{COE(COE-g)}$$

Which then rearrange to find COE (and where POUT- Dividend pay out ratio)

$$COE = A + \left(A^2 + \frac{FEPS_{t+1}}{P_t} \left(\frac{(FEPS_{t+2} - FEPS_{t+1}}{FEPS_{t+1}} - g \right) \right)^{0.5}$$

Where, $A = \frac{1}{2} \left(g + \frac{POUT \times FEPS_{t+1}}{P_t} \right)$

P_t -   Share price at time t

FEPS   -   Forecasted earnings per share

POUT   -   Dividend payout ratio

g   -   estimated long term growth

The long term growth in this estimation is proxied by the inflation rate of 1.4% for year 2004 and that is the company wide economic growth.

4. Results

4.1 General descriptive statistics

Table 4.1 shows the proportion of companies that are with ultimate controlling party having controlling rights through layers of companies (pyramidal ownership) and those that are with ultimate controlling party having direct controlling rights (non-pyramidal).

Table 4.1 Breakdown of companies with pyramidal(PYS) and non-pyramidal ownership(NON-PYS)

Sample	PYS	NON-PYS
ABRES (141)	40	101

	(28%)	(72%)
ABSDATCA /ABSDATA (151)	46 (30%)	105 (70%)

Table 4.2 and table 4.3 show the descriptive statistics for each variable in each of the two samples. The values of each variable used in the regressions are as estimated or calculated. Only for both the discretionary accruals variables (ABSDATCA and ABSDATA) the logged form is used as the calculated form is highly skewed as shown in table 4.3. As given in table 4.4 the skewness and kurtosis problems of the logged form (LABSCA and LABSTA) is much lesser than the original form of the variable.

Even though some of the other variables are skewed and peaked, they are not transformed as the transformed variables are not much improved and to prevent further reduction of sample size. Besides as discussed in Tabachnik. and Fidell (2001) transformation poses interpretation problem and not widely recommended. Further, with the given sample sizes Central Limit Theorem is relied on to predict normality. Market values (MV) and book to market (BTMV) are transformed (LGMV and LBTMV) as MV are large and transformation of BTMV achieved univariate normality.

Table 4.2 Descriptive Statistics - ABRES SAMPLE

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness			Kurtosis		
						Statistic	Std. Error		Statistic	Std. Error	
CFVR	141	0.006	1.000	0.490	0.218	0.515	0.204	2.522	0.155	0.406	0.382
SSVR	141	0.000	0.401	0.087	0.077	0.814	0.204	3.990	0.928	0.406	2.289
ABRES	141	0.001	0.209	0.039	0.039	1.682	0.204	8.241	3.095	0.406	7.633
LGMV	141	4.222	10.300	6.585	1.377	0.582	0.204	2.849	-0.221	0.406	-0.544
BETA	141	0.160	2.100	0.961	0.413	0.520	0.204	2.546	-0.029	0.406	-0.070
LBTMV	141	-3.013	1.393	-0.394	0.645	-0.559	0.204	-2.738	1.910	0.406	4.709
COE	141	0.021	0.520	0.147	0.066	2.190	0.204	10.729	8.333	0.406	20.547

Table 4.3 Descriptive Statistics - ABSDATCA & ABSDATA SAMPLE

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness			Kurtosis		
						Statistic	Std. Error		Statistic	Std. Error	
COE	151	0.021	0.520	0.149	0.065	2.087	0.197	10.570	7.794	0.392	19.865
CFVR	151	0.006	1.000	0.488	0.216	0.609	0.197	3.085	0.299	0.392	0.763
SSVR	151	0.000	0.401	0.091	0.080	0.749	0.197	3.793	0.429	0.392	1.093
LGMV	151	4.222	10.300	6.555	1.338	0.656	0.197	3.323	-0.040	0.392	-0.101
BETA	151	-1.460	2.100	0.932	0.475	-0.475	0.197	-2.406	3.558	0.392	9.069
LBTMV	151	-3.013	1.393	-0.406	0.641	-0.524	0.197	-2.656	1.762	0.392	4.492
ABSDATCA	151	0.000	2.364	0.090	0.211	8.863	0.197	44.899	92.330	0.392	235.343
ABSDATA	151	0.000	2.335	0.094	0.208	8.850	0.197	44.835	92.375	0.392	235.460

Table 4.4 Descriptive Statistics for transformed ABSDATCA and ABSDATA i.e LABSCA and LABSTA

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness			Kurtosis		
						Statistic	Std. Error		Statistic	Std. Error	
LABSCA	151	-8.957	0.860	-3.271	1.371	-0.512	0.197	-2.594	1.420	0.392	3.620
LABSTA	151	-9.053	0.848	-3.224	1.515	-1.152	0.197	-5.838	2.486	0.392	6.336

4.2 Descriptive statistics for ownership structure

The cash flow, voting/control rights and ratio of voting/control rights are found to be higher than those reported in Claessens (1998b) study, where it is reported that the mean of cash flow rights is 24%, voting/control rights is 28% and the mean ratio of cash flow to voting/controlling rights is 85%. However the means for cash flow and voting rights for the samples in this study are found to be higher as given in the following table, whilst the ratio of cash flow to voting rights is lower in this study than in Claessen (1998b).

Table 4.5 Descriptive statistics of cash flow and voting rights and ratio of cash flow to voting rights

		ABRES			ABSDATCA		
		CF	VR	CFVR	CF	VR	CFVR
Mean		0.41	0.54	0.49	0.40	0.53	0.49
Minimum		0.01	0.20	0.01	0.01	0.20	0.01
Maximum		0.89	1.00	1.00	0.89	1.00	1.00
Std Dev		0.19	0.23	0.22	0.18	0.22	0.22
Percentiles	25	0.28	0.38	0.32	0.28	0.36	0.32
	50	0.41	0.50	0.50	0.41	0.48	0.48
	75	0.54	0.61	0.60	0.53	0.60	0.60

Claessens et al (1998b)'s sample is taken in 1996, the year before the Asian financial crisis. Thus for the year under study, the disparity indicated by the cash flow/voting rights ratio appears to be higher than Claessens et al (1998b) study and at a higher level of control as indicated by the mean voting rights.

Another point to note is that samples in Claessens et al (1998 b) and Claessens, Djankov and Lang (2000) are based on availability of ownership structure data on Worldscope database which largely comprises of large companies. The share of the total market capitalization of the Malaysian companies in the sample is 74% (Claessens et al 2000). The share of market capitalization of the companies in the samples in this study is between 27%-32%. Since it is based on availability of IBES analysts' earnings

forecasts it comprises of companies of interest to analysts which are not just large companies but also newly listed and not as large.

4.3 Bivariate collenearity of all variables in each sample

Table 4.6 and Table 4.7 show the Pearson correlation coefficients and the associated significant levels of all variables in the ABRES and the ABSDATCA/ABSDATA samples respectively.

Table 4.6 Correlations - ABRES SAMPLE

	COE	SSVR	CFVR	ABRES	LGMV	LBTMV	BETA
COE	1.000						
SSVR	**-0.225** **(0.007)***	1.000					
CFVR	0.068 (0.424)	**-0.214** **(0.011)**	1.000				
ABRES	**0.199** **(0.018)**	**-0.140** **(0.098)***	-0.087 (0.305)	1.000			
LGMV	**-0.330** **(0.000)***	-0.070 (0.406)	**0.143** **(0.090)***	**-0.203** **(0.016)**	1.000		
LBTMV	**0.289** **(0.001)***	0.106 (0.213)	0.125 (0.140)	**-0.188** **(0.025)**	**-0.269** **(0.001)***	1.000	
BETA	0.053 (0.535)	-0.036 (0.675)	-0.068 (0.421)	-0.011 (0.897)	-0.113 (0.182)	0.130 (0.123)	1.000

Table 4.7 Correlations- ABSDATCA and ABSDATA Sample

	COE	SSVR	CFVR	ABSDATCA	ABSDATA	LGMV	LBTMV	BETA
COE	1.000							
SSVR	**-0.197** **(0.015)**	1.000						
CFVR	0.026 (0.752)	**-0.205** **(0.012)**	1.000					
ABSDATCA	**0.185** **(0.023)**	-0.127 (0.119)	-0.119 (0.145)	1.000				
ABSDATA	**0.181** **(0.026)**	-0.094 (0.249)	-0.032 (0.695)	**0.732** **(0.000)***	1.000			
LGMV	**-0.336** **(0.000)**	-0.083 (0.312)	**0.197** **(0.015)**	**-0.284** **(0.000)***	**-0.287** **(0.000)***	1.000		
LBTMV	**0.318** **(0.000)***	0.129 (0.115)	0.083 (0.311)	**-0.150** **(0.066)***	-0.129 (0.115)	**-0.282** **(0.000)***	1.000	
BETA	0.026 (0.751)	-0.060 (0.466)	0.007 (0.933)	-0.007 (0.930)	0.089 (0.278)	-0.034 (0.674)	**0.136** **(0.096)***	1.000

4.4 Multivariate analysis

To determine if the earnings quality and the ownership structure variables each has a distinct effect on cost of equity, the cost of equity is regressed individually on the respective variables as follows.

$COE = \varphi_0 + \varphi_1\,SIZE + \varphi_2\beta + \varphi_3\,BTMV + \delta$

$COE = \varphi_0 + \varphi_1\,Earnings\ quality + \delta$

$COE = \varphi_0 + \varphi_1\,CFVR + \delta$

$COE = \varphi_0 + \varphi_2\,SSVR + \delta$

The results are given in Table 4.8 (ABRES sample) and Table 4.11 (ABSDATCA/ABSDATA sample). The coefficients of size, book to market, each of the earnings quality measures are of the expected sign and significant at the least 5% level. The coefficient of substantial shareholders' voting rights is negative in both samples and significant. However the coefficient of cash flow/voting rights and beta are not significant in both samples.

COE is then regressed on the established risk factors (size, beta and book to market ratio) and each of earnings quality and ownership structure variables as follows.

$COE = \varphi_0 + \varphi_1\,Earnings\ quality + \varphi_2\,SIZE + \varphi_3\beta + \varphi_4\,BTMV + \delta$

$COE = \varphi_0 + \varphi_1\,CFVR + \varphi_2\,SIZE + \varphi_3\beta + \varphi_4\,BTMV + \delta$

$COE = \varphi_0 + \varphi_1\,SSVR + \varphi_2\,SIZE + \varphi_3\beta + \varphi_4\,BTMV + \delta$

The results are given in Table 4.9 (ABRES sample) and Table 4.12 (ABSDATCA/ABSDATA sample). The significance and sign of each of the earnings quality and ownership structure variables do not change when these variables are

regressed individually with the risk factors (size, beta and book to market ratio) for each sample.

The results for the full regression is given in Table 4.10 (ABRES sample) and Table 4.13 (ABSDATCA/ABSDATA sample). The full regression is:

$$COE = \varphi_0 + \varphi_1 \text{ Earnings quality} + \varphi_2 CFVR + \varphi_3 SSVR + \varphi_4 SIZE + \varphi_5 \beta + \varphi_6 BTMV + \delta$$

Similar to the results of previous regressions, apart from risk factors size and book to market, all three measures of earnings quality and substantial shareholders' voting rights explained significantly the variation in cost of equity. Thus the significance of each of the earnings quality measures and the substantial shareholders' voting rights in explaining cost of equity is distinct and not driven by the underlying inter relationship between the explanatory variables.

Table 4.8 COE on each of Risk factors together, ABRES, CFVR and SSVR

	Intercept	Size (Market value)	Beta	Book to market	Earnings Quality	Cash flow/voting rights	Substantial Shareholders' voting rights
Predicted sign		-ve	+ve	+ve	+ve	-ve	-/+ve
R^2							
0.15	0.242	**-0.013**	-0.001	**0.022**			
	8.743	*-3.832*	*0.943*	*2.96*			
0.04	0.134				**0.339**		
	18.074				**1.933**		
0.00	.137					0.020	
	11.273					0.777	
0.05	0.164						**-0.193**
	17.284						*-2.835*

Table 4.9 COE on Risk factors and each of ABRES, CFVR and SSVR

	Intercept	Size (Market value)	Beta	Book to market	Earnings Quality	Cash flow/voting rights	Substantial Shareholders' voting rights
Predicted sign		-ve	+ve	+ve	+ve	-ve	-/+ve
R^2							
0.19	0.213	**-0.010**	-0.00	**0.028**	**0.351**		
	6.948	*-2.950*	*-0.55*	*3.300*	*2.102*		
0.16	0.233	**-0.013**	-.000	**0.020**		0.025	
	7.910	*-4.024*	*-.003*	*2.861*		*0.971*	
0.22	0.270	**-0.014**	-0.00	**0.025**			**-0.233**
	9.689	*-4.315*	*-0.260*	*3.288*			*-3.545*

Table 4.10 COE on Risk factors, ABRES, CFVR and SSVR

	Intercept	Size (Market value)	Beta	Book to market	Earnings Quality	Cash flow/voting rights	Substantial Shareholders' voting rights
Predicted sign		-ve	+ve	+ve	+ve	-ve	-/+ve
R^2							
0.25	0.239	**-0.012**	-0.002	**0.0285**	**0.291**	0.001	**-0.208**
		-3.560	**-0.197**	**3.540**	**1.848**	**0.375**	**-3.503**

Table 4.11 COE on each of Risk factors together, (a)ABSDATCA/ (b)ABSDATA, CFVR and SSVR

	Intercept	Size (Market value)	Beta	Book to market	Earnings Quality	Cash flow/voting rights	Substantial Shareholders' voting rights
Predicted sign		-ve	+ve	+ve	+ve	-ve	-/+ve
R^2							
0.17	0.247	**-0.013**	-0.002	**0.025**			
	9.989	*-3.864*	*-0.211*	*3.512*			
					ABSDATCA		
(a) 0.03	0.178				**0.009**		
	13.826				**2.922**		
					ABSDATA		
(b) 0.03	0.174				**0.008**		
	14.634				**2.721**		
0.00	0.145					0.008	
	12.075					*0.303*	
0.04	0.163						**-0.160**
	17.789						*-2.495*

Table 4.12 COE on Risk factors and each of (a)ABSDATCA/ (b)ABSDATA, CFVR and SSVR

	Intercept	Size (Market value)	Beta	Book to market	Earnings Quality	Cash flow/voting rights	Substantial Shareholders' voting rights
Predicted sign		-ve	+ve	+ve	+ve	-ve	-/+ve
R^2					**ABSDATCA**		
(a) 0.19	0.256	**-0.010**	-0.003	**0.0294**	**0.008**		
	9.982	*-2.945*	*-0.249*	*3.778*	*2.531*		
					ABSDATA		
(b) 0.19	0.255	**-0.010**	-0.005	**0.029**	**0.007**		
	9.769	*-2.887*	*-0.437*	*3.693*	*2.089*		
0.17	0.241	**-0.014**	-0.002	**0.024**		0.019	
	9.615	*-3.929*	*-0.208*	*3.513*		*0.750*	
0.232	0.274	**-0.014**	-0.005	**0.028**			**-0.210**
	10.812	*-4.368*	*-0.519*	*3.896*			*-3.403*

Table 4.13 COE on Risk factors, (a)ABSDATCA/ (b) ABSDATA, CFVR and SSVR

	Intercept	Size (Market value)	Beta	Book to market	Earnings Quality	Cash flow/voting rights	Substantial Shareholders' voting rights
Predicted sign		-ve	+ve	+ve	+ve	-ve	-/+ve
R^2					**ABSDATCA**		
(a) 0.25	0.278	**-0.011**	-0.005	**0.031**	**0.006**	0.004	**-0.194**
	10.777	*-3.508*	*-0.525*	*4.161*	*2.072*	*0.183*	*-3.510*
					ABSDATA		
(b) 0.25	0.280	**-0.011**	-0.007	**0.032**	**0.006**	0.000	**-0.200**
	10.655	*-3.288*	*-0.707*	*4.129*	*1.889*	*0.004*	*-3.590*

5. Discussion/ Conclusion

A caveat is in order for the small sample size. As described in section 3.2 the sample size is reduced a number of times by the lack of information to estimate the variables. Even though the final sample size is sufficient for the statistical analyses employed, the statistical inference made is somewhat limited for generalization. The results shed some light on the relationships studied and provide some evidence to

support the hypotheses tested. Future research that includes more companies and years is needed to provide a robust set of results.

The hypothesized relationship between cash flow/voting rights and cost of equity is not supported. The comparison between Claessens (1998b) sample and the samples under study provides an insight why this is so. Table 4.5 indicates that even the minimum voting rights found in the samples in this study is quite close to the mean of 28% in Claessens (1998b) study. Seventy five percent of companies in the samples have ultimate controlling party with voting rights above 36%/38%. Similarly the mean cash flow rights in all samples in this study are almost twice that reported in Claessens (1998b). 75% of the companies have ultimate controlling party with cash flow rights above 28%.

Similar pattern is observed in Fan and Wong (2002) whose study includes 177 Malaysian companies. The mean voting rights is 31% whilst the mean cash flow rights is reported to be 26%. As in Claessens et al (1998b) study the reported mean CFVR is 85%. Further both Claessens et al (1998b) and Fan and Wong (2002) capped the voting rights at 50%. They stopped analyzing the voting rights of the ultimate controlling party once the voting rights breaches 50%. So the maximum voting rights for the companies in the sample is 50%.

Certainly the off setting effect of increasing cash flow rights and increasing voting rights is complex and merit more research. Previous research such as Claessens (1998b) found that at a higher level of control the tendency to expropriate, which is expected in information asymmetry situations, is higher. However the insignificant result in this study suggests that even though the disparity between cash flow and voting rights exists, at higher level of control and even higher level of cash flow, market does not price the disparity because the ultimate controlling party is not expected to expropriate or inhibit information as the cash consequence of his action is more significant.

Finally the lack of significant association between cash flow/voting rights disparity and the cost of equity, could be due to the effective presence of a substantial shareholder. As found, substantial shareholders' voting rights, SSVR, is fairly consistent in showing negative association with cost of equity.

The significant negative relationship with cost of equity suggests that a lower percentage holding of substantial shareholder poses information risk. This is consistent with the theory in general, as an increase in voting rights afford the substantial shareholder more bargaining power for inclusion in the decision making process such as being a member of the board of directors. Therefore this increase the chance of more information flow to the public, information which otherwise would be in the proprietary control of the ultimate controlling party. This result contributes towards the 'information argument' (Fan & Wong 2002). That is the presence of others other than the controlling party increase the likelihood that proprietary knowledge of the company is shared to the others and decrease the likelihood that it is concentrated to certain individual which leads to opacity of information. The wider the set of informed individuals the greater the likelihood that information 'leaks' to the public and thus reduce the company's information risk.

Previous researches (Jung and Kwon (2002), Koh (2003) and Chung, Firth and Kim (2004)) associate substantial shareholder's voting rights with earnings quality measure. The cost of equity effect, that is the information risk effect, has never been examined. The finding that substantial shareholders' shareholding is priced is a new and significant contribution not only in the Malaysian context but also elsewhere. Thus not only substantial shareholder is an important mechanism, it is also perceived as such by the market.

The hypothesis that there is a cost of equity effect of earnings quality is largely supported. There is nothing new in this finding except that this study examines

companies in an emerging market. Therefore even in an emerging market investors are sophisticated and do price earnings quality with low earnings quality being perceived as information risks.

Whilst there have been many studies on Malaysian companies that examine earnings quality, especially abnormal accruals in relation to many variables such as board characteristics, managerial ownership, etc. there has never been any Malaysian studies that prove that abnormal accruals are priced. The consequence of this is that the preparer may gain in manipulation of accounts but they stand to lose in terms of higher required return by investors.

This research has looked at one dimension of the ultimate controlling party and that is the cash flow/voting rights disparity. However the ability and potential to inhibit information may be explained by another layer of control and that is control obtained by direct possession of knowledge regarding the operations. This is achieved by direct involvement with operation or close relationship with those in direct involvement. This research has not differentiate the ultimate controlling party who are and are not in executive position. In the same line of argument this research has not separated out the substantial shareholders who are in actual fact a partner of the ultimate controlling party and the substantial shareholders who are really an outsider. Obviously the presence of the former may impair its monitoring role and thus may not 'leak' information to the public.

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THE EFFECT OF MANAGERIAL OWNERSHIP ON THE COST OF DEBT:
EMPIRICAL EVIDENCE FROM JAPAN
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Abstract: We examine the effect of managerial ownership on interest rate spread on corporate bonds for Japanese firms. First, we find that managerial ownership is positively associated with interest rate spread after controlling for other aspects of the Japanese ownership structure, cross-shareholding and stable shareholdings by financial institutions. Second, by employing factor analysis to measure the agency cost of debt based on financial variables, we find that managerial ownership has a higher correlation with interest rate spread when the agency cost of debt at the time of bond issue is larger. Our results suggest that prospective bondholders use managerial ownership information to anticipate a firm's future agency cost of debt, and estimate it to be higher when the current agency cost of debt at bond issue is larger. Further, our results indicate that accounting information is useful for estimating the agency cost of debt and increasing the efficiency of bond contracts.

I. Introduction

This study examines the effect of managerial ownership on the cost of debt. Specifically, it investigates the relationship between managerial ownership and the cost of debt as measured by the interest rate spread on corporate bonds for Japanese firms.

Agency theory predicts that the shareholdings of managers help align the managers' interests with those of the shareholders (Jensen and Meckling 1976). This incentive alignment effect is expected to have a greater impact as managerial ownership increases. This suggests that as managerial ownership increases, corporate performance also increases (Morck et al. 1988). On the other hand, however, the theory also suggests that managerial shareholdings lead to a conflict between shareholders and bondholders (Jensen and Meckling 1976; Myers 1977). In particular, limited liability shareholders may have an incentive to expropriate bondholders' wealth through investments and financial decisions aimed at reducing the value of the firm's outstanding debt.

For example, owner-managers by levered firms may have an incentive to invest in projects that are riskier than those specified by bondholders. This is commonly called the "***risk-shifting problem***." Further, owner-managers have an incentive to conduct wealth transfers by financing activities such as changes in the dividend policy and the issuance of additional debt. In an efficient market, rational bondholders should recognize owner-managers' incentives to increase shareholder wealth at the expense of their wealth and should accordingly adjust the required yield.

Some empirical investigations support the prediction of agency theory. Ortiz-Molina (2006) and Bagnani et al. (1994) empirically tested the implication of the ***risk-shifting problem***. Ortiz-Molina (2006) provides evidence that managerial ownership is

positively correlated with the yield spread of corporate bonds. Bagnani et al. (1994) indicate that an increase in managerial ownership increases the cost of debt measured by bond return premia when managerial ownership is low. Consistent with the implication of the theory, these results suggest that bondholders obtain price protection against the potential agency cost of debt. Furthermore, the authors argue that the relation between shareholdings by managers and the cost of debt is nonmonotonic, and they provide some evidence in support of their argument.

Our study is also related to the studies focusing on the effect of the corporate governance structure on the cost of debt. Anderson et al. (2003) investigate the impact of the founding family ownership structure on the agency cost of debt and indicate that family ownership is associated with a lower cost of debt financing. Bhojraj and Sengupta (2003) explore the link between governance mechanisms and bond yields and ratings. They reveal that the cost of debt on new debt issues is negatively associated with the percentage of shares held by the institutions and the fraction of the board comprising non-officers (i.e., stronger external control of the board). Overall results indicate that corporate governance mechanisms could affect the cost of debt by mitigating agency costs.

The first research objective of this study is to examine the relationship between managerial ownership and the cost of debt for Japanese firms. Following the empirical implication of the theory, we hypothesize that managerial ownership is positively associated with the interest rate spread. In addition to managerial ownership, we explore the effect of other ownerships in the Japanese corporate ownership structure on the cost

of debt because it is often argued that Japanese ownership structures have unique characteristics as compared to those of other countries.

We control the effect of two institutional ownerships: cross-shareholding and stable shareholding by financial institutions. Cross-shareholding, which refers to mutually exchanging equity shares in a pair of firms, has been a common practice in Japan. Further, stable shareholding by financial institutions, mainly represented by the main bank, is a unique practice and was a grave concern during the 1990s in Japan. We examine the functioning of these Japanese ownership structures in a bond market setting.

We find support for the hypothesis that managerial ownership has a positive association with interest rate spread. The results suggest that prospective bondholders in Japan perceive managerial ownership as a structure that increases the potential conflict between shareholders and bondholders, and they incorporate this perception in the pricing of new corporate bond issues. Moreover, we find that stable shareholding is positively associated with interest rate spread, while cross-shareholding exhibits no significant correlation in this regard. The findings are consistent with the argument that stable shareholdings by financial institutions play an active role in reducing managerial opportunism and mitigating the wealth transfer problem between bondholders and shareholders.

The second research objective of this study is to examine the effect of the potential agency cost of debt of bond-issuing firms at the time of issue on the relation between managerial ownership and the cost of debt. As predicted by the theory, managerial shareholdings may induce opportunistic behavior by firm managers aimed at increasing

their benefits at the expense of bondholders' wealth. Our first result is consistent with the implication of the theory.

If firm managers have already engaged in moral hazard behaviors or have a wide range of options for this purpose at the time of bond issue, bond investors would estimate a higher future agency cost of debt and default risk for the firm because prospective bondholders consider that such managers exhibit a high probability to conduct actions that transfer the wealth of bondholders to them after bond issue, which results in an increase of the interest rate spread. Therefore, we hypothesized that managerial ownership has a higher correlation with the interest rate spread when the agency cost of debt at issuing bonds is already larger.

To measure the agency cost of debt of bond issuing firms, we reduce six financial variables related to the agency cost of debt to a single index by using factor analysis. Our results indicate that managerial ownership has a stronger effect on interest rate spread when the agency cost of debt is larger, which supports our hypothesis.

Further, we conduct some analyses to verify the validity of our hypothesis because a part of our results is not consistent with the results of prior studies. Bagnani et al. (1994) indicate that managerial ownership is nonmonotonically related to the cost of debt. They advocate that at high ownership levels, managerial ownership is negatively correlated to the cost of debt because of two reasons: the first reason is that large shareholdings by managers could induce firm managers to be more concerned about the nonsystematic risk of firms, which reduces the *risk-shifting problem*. The second reason is that when managerial ownership is high, managers can become entrenched and their risk choice is not dependent on the preference of shareholders. Both arguments assume

that at high ownership levels, the positive effect of managerial ownership on managerial

risk-taking can be weaker, and as a result, managerial ownership is expected to be

nonlinearly associated with the cost of debt.

To address the possibility of this nonlinear relationship, we perform regression

analyses by employing the quadratic form regression model. The result does not indicate

that the relation between managerial ownership and interest rate spread is nonmonotonic,

as indicated by Bagnani et al. (1994). The result reveals that managerial ownership is

positively and linearly associated with interest rate spread. In the subsequent section, we

present possible explanations as to why our results differ from those of Bagnani et al.

(1994).

To ensure the robustness of our results, we conduct further analyses such as those

on bond rating and the potential endogeneity problem and those conducted using the

Fama and Macbeth (1973) approach. We find that our results are robust under these

additional analyses.

This study makes several contributions to the literature on finance and accounting,

and the understanding of practice of the Japanese bond market. First, our results suggest

that Japanese bond investors use managerial ownership information to anticipate a firm's

future agency cost of debt, and that they incorporate this prediction in determining the

bond yield spread. In addition, the results indicate that bond investors estimate a firm's

future default risk to be higher when the agency cost of debt at issuing bond is already

larger. Therefore, our results indicate that managerial ownership is an important

determinant of bond yield spread in the processes of the Japanese bond market.

Second, this study contributes to prior studies by clarifying that the agency cost of debt at the time of bond issue affects the anticipation of the future potential agency cost of debt that reflects the interest rate spread. While prior studies consider managerial opportunistic behaviors arising from the conflict between bondholders and shareholders only from the perspective of the risk-shifting problem (Ortiz-Molina 2006; Bagnani et al. 1994), this study develops hypotheses based on inclusive opportunistic behaviors by managers and constructs a composite measure for the degree of the agency cost of debt. These procedures contribute to the verification of the validity of theoretical hypothesis based on the agency cost of debt, and they discriminate the alternative hypotheses.

Further, these results support the utility of accounting information in debt contracting because they suggest that prospective bondholders use financial information to anticipate the potential agency cost of debt in decision making for bond investments. Although we already know that accounting information provides ex post benefits to bondholders through accounting-based debt covenants in the debt contracting process (Watts and Zimmerman 1986), our results indicate the ex ante role of accounting information in the debt contracting process. This acts as evidence suggesting that accounting information plays an important role in increasing the efficiency of bond contracts.

Finally, this is the first study that examines the effect of Japanese corporate ownership on the cost of debt in the Japanese bond market. It is often advocated that the Japanese ownership structure is quite different from that of other countries. Previous studies have investigated the impact of the Japanese ownership structure on firm performance (Prowse 1992; Lichtenberg and Pushner 1994; Morck et al. 2000). Our

1258

study contributes to these studies by resolving the functioning of the Japanese ownership structure in a bond contract setting.

Further, it should be noted that in our result, managerial ownership has a strong effect on the interest rate spread after controlling for other aspects of ownership structure, cross-shareholding and stable shareholding by financial institutions, which are often emphasized as characteristics of the Japanese ownership structure. Although previous studies examining the Japanese ownership structure generally focus on the findings related to the unique aspects of ownership structure, such as cross-shareholding and main banks, our results reveal that the empirical implication of the traditional agency theory on managerial ownership is supported by the analyses for the Japanese bond market, which is consistent with the findings of analyses for US firms (Ortiz-Molina 2006; Bagnani et al. 1994).

The remainder of this paper is organized as follows. Section II describes the theoretical background and develops the hypotheses. Section III explains the research model for testing our hypotheses. Section IV outlines the sample selection procedure and describes the variables used in this analysis. Section V reports the empirical results on the relation between managerial ownership and interest rate spread. Section VI summarizes the results of additional analyses. Finally, Section VII concludes the study with a summary.

II. Hypothesis development

Managerial ownership and the cost of debt

Our first research objective is to examine the effect of managerial ownership on the cost of debt. Prior studies indicate that shareholdings held by managers create a conflict of interest between shareholders and bondholders (Jensen and Meckling 1976; Myers 1977). This conflict induces owner-managers to take investment and financing decisions that benefit them at the expense of the bondholders. With respect to the investment decisions, owner-managers have an incentive to transfer wealth to shareholders from bondholders by taking excessive risk, which is referred to as risk-shifting or asset substitution. Consequently, according to the theory, it is expected that as managerial ownership increases, firm managers become more likely to make investment decisions involving higher risks that are consistent with the interests of the shareholders, at the expense of the bondholders.

The other source of conflicts of interest between shareholders and bondholders involves financing decisions such as dividend policy and the issuance of new debt. Owner-managers have an incentive to distribute cash funds themselves when firms are financed partially by debt (Myers 1977). For instance, firm managers may forgo positive net present value projects, and instead, pay dividends to shareholders or repurchase shares. Furthermore, managers could sell existing business assets and distribute the proceeds to shareholders by dividends or share repurchase. In the extreme case, such managerial behaviors could sell off all business assets through a discretionary dividend policy, leaving the bondholders with an "empty corporate shell."

Finally, it is often argued that the issuance of additional debt also transfers wealth from the original bondholders to the managers and consequently creates costs that reduce the value of the firms (Watts and Zimmerman 1986). In practice, the owner-managers can

issue additional corporate bonds after the original bond is issued. The issuance of new

debt dilutes the value of existing debt. The dilution is particularly strong if the new debt

is either secured or senior to the original debt (Tirole 2006).

Since rational bondholders know that their interests might conflict with the

interests of owner-managers, they would demand a higher interest rate on corporate

bonds as a compensation for the added risk on the risk-shifting and discretionary

financing behaviors by owner-managers. This higher interest rate is the way bondholders

obtain price protection against the possibility that owner-managers will take actions that

benefit shareholders but harm bondholders.[196] Thus, this argument leads to our first

hypothesis that shareholdings of managers increase the cost of debt.

Hypothesis 1: Managerial ownership is positively associated with the cost of debt.

The effect of the potential agency cost of debt on the relation between managerial

ownership and the cost of debt

Our second research objective is to examine the effect of the potential agency cost

of debt of bond issue firms at the time of issue on the relation between managerial

ownership and the cost of debt. In the development of the first hypothesis, we assume

that owner-managers take investment and financing decisions that benefit them at the

expense of bondholders, and that bondholders use managerial ownership information to

predict a firm's future agency cost of debt.

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[196] Another way to reduce conflicts of interest between bondholders and shareholders is to write bond covenants that restrict the owner-managers' behaviors to harm bondholders' wealth (Smith and Warner 1979). However, McDaniel (1986) indicates that while the use of bond covenants reduces the agency cost of debt, the protection offered by these covenants cannot totally eliminate the conflicts between bondholders and shareholders.

If firm managers have already engaged in opportunistic behavior that increases the agency cost of debt or have a wide range of options for this purpose at the time of bond issue, prospective bondholders are likely to anticipate a higher future agency cost of debt and default risk for the firm. The behaviors of managers, such as highly risky investment, excessive dividend payment, and frequent insurance of debt before the corporate bond issue, would make prospective bondholders more sensitive to firms' future agency costs of debt arising from shareholding by managers. The bondholders would consider that such managers have a high incentive in transferring the wealth of bondholders to them after the bond issue.

In reality, although it is difficult for the bond inventors to completely grasp the agency cost of debt, they can estimate it by using accounting information in financial statements to a certain extent. Prior studies indicate that some financial variables are useful in measuring the potential conflict between bondholders and shareholders (Long and Malits 1985; Titman and Wessels 1988; Prowse 1990; Hwang and Kim 1998; Ahmed et al. 2002). We expect that prospective bondholders can grasp the agency cost of debt by observing financial variables at the time of bond issue and incorporate their estimation in the pricing of new corporate bond issues.

Therefore, we expect that the shareholding of managers has a stronger effect on the cost of debt when the potential agency cost of debt at issuing bonds is larger.

Hypothesis 2: Managerial ownership has a higher correlation with the interest rate spread when the agency cost of debt at the time of bond issue is larger.

We should note that some prior studies reveal the possibility that managerial ownership is nonlinearly associated with the cost of debt, which suggests the existence of alternative hypotheses. Bagnani et al. (1994) and Ortiz-Molina (2006) argue that at low ownership levels, managerial ownership is positively correlated to the cost of debt due to the risk-shifting problem, which is consistent with our first hypothesis. However, they also advocate that at high ownership levels, managerial ownership has a negative correlation with the cost of debt. Consequently, it is expected that the relation between managerial ownership and the cost of debt is nonmonotonic. The aforementioned studies present two possible explanations about the negative relation between managerial ownership and the cost of debt at high ownership levels. First, as managerial shareholding increases, the firm managers would be more concerned with the nonsystematic risk of the firms because their wealth is less diversified (Saunders et al. 1990), which reduces the risk-shifting problem.

Second, at high ownership levels, managers can become entrenched because they can use their control of votes to protect their position, and thus, their decisions regarding risk-taking are not dependent on the preferences of the shareholders (Morck et al. 1988). Both theoretical considerations suggest that managerial ownership is not positively associated with the cost of debt at high ownership levels.

The empirical results remain mixed and inconclusive. Bagnani et al. (1994) indicate that the relation between managerial ownership and bondholder returns is nonmonotonic according to their hypothesis. On the other hand, Ortiz-Molina (2006) provides evidence that although the shareholdings of managers, including stock option

holdings, are nonlinearly associated with yield spread, managerial ownership does not

have a nonmonotonic relationship with yield spread. Overall, with respect to the

empirical investigation on the effect of managerial ownership, only the findings of

Bagnani et al. (1994) indicate a nonlinear effect of managerial ownership on the cost of

debt.

With regard to the reason for the inconclusive results mentioned above, numerous

points about the validity of their hypothesis development on nonmonotonic relationships

can be considered. While this study develops hypotheses based on the inclusive

implication of the theory of agency cost of debt, they discuss the effect of managerial

ownership only from the perspective of the risk-shifting problem and do not consider

other managerial behaviors such as financing decisions. This lack of consideration may

reduce the validity of their hypothesis because the expected effect of managerial

ownership related to financing decisions does not clearly suggest that the relation

between managerial ownership and the cost of debt is nonmonotonic.

Further, with respect to the managerial entrenchment effect that the aforementioned

studies depend upon in their hypotheses development, we can derive an opposite

prediction about the relation between managerial ownership and the cost of debt. Prior

studies provide evidence that entrenched managers decrease firm performance because of

their opportunistic behaviors (Morck, Shleifer, and Vishny 1988; McConnell and Servaes

1990; Short and Keasey 1999).[197] Since such opportunistic behaviors decrease firm

values and increase the default risks of the firms, we also expect that managerial

ownership increases the bond yield spread, following the implication of the managerial

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[197] With regard to Japanese firms, prior studies have clarified the entrenchment effect from some perspectives: firm performance (Teshima 2004), earnings management (Teshima and Shuto 2008), and accounting conservatism (Shuto and Takada 2008).

entrenchment effect, which implies a positive association between managerial ownership and the cost of debt.

Thus, this leads to **an empirical question** whether there is a nonmonotonic relation between managerial ownership and the cost of debt. Hence, in Section VI, we conduct an additional examination assuming that there is a nonmonotonic relation between managerial ownership and interest rate spread and compare the obtained results with those of prior studies.

III. Research design

Research model to test hypothesis 1

To test hypothesis 1, we examine the association between managerial ownership and bond yield spread by estimating the following model:

$$SPREAD = C + \beta_1 MO + \beta_2 CROSS + \beta_3 FSTABLE + \beta_4 MARGIN + \beta_5 DER$$

$$+ \beta_6 INCR + \beta_7 LNASIZE + \beta_8 BSIZE + \beta_9 MATURE$$

$$+ \beta_{10} BCFIRM + \beta_{11} RISKP + YEAR + \varepsilon, \tag{1}$$

where

$SPREAD$ = the interest rate spread on the first straight bond issued of the fiscal year; the spread is the difference between the interest rates on the bond issued by the firm and on government bonds

MO = the fraction of the shares owned by directors at the end of fiscal year t

CROSS = the fraction of the shares owned by cross-shareholders at the end of fiscal

year t

FSTABLE = the fraction of stable shareholdings by financial institutions at the end of

fiscal year t

MARGIN = the operating income divided by net sales at the end of fiscal year t

DER = the debt equity ratio at the end of fiscal year t

INCR = the interest coverage ratio at the end of fiscal year t

LNASIZE = the natural log of total assets at the end of fiscal year t

BSIZE = the log of the issue size

MATUR = the number of years till maturity

BMCOMP = an indicator variable that takes the value of one if a bond management

company is established, and zero otherwise

RISKP = the risk premium (the average values of *SPREAD* on R&I's A bonds for the

month of issue)

We use the interest rate spread on straight bond issues (*SPREAD*) to measure the cost of debt. As a proxy for managerial ownership (*MO*), we use the ratio of the shares owned by the directors on the board. The ratio of the shares owned by *all* directors should be used in this study because prior studies such as Aoki (1990) and Milgrom and Roberts (1992) argue that the Japanese corporate governance system functions more through consensus than through a CEO-dominated system, as is the case in the US. Further, they argue that Japanese board members make decisions as a group. Teshima and Shuto (2008) examine the effect of managerial ownership on the earnings management behavior

for Japanese firms. They also use the ratio of the shares owned by all directors as a proxy for managerial ownership.[198] If the relationship between managerial ownership and the cost of debt is similar to the prediction of hypothesis 1, the coefficient of *MO* would be expected to be positive.

Institutional ownership could also influence managerial behavior, and for Japanese firms, the influence of cross-shareholding (*CROSS*) and stable shareholdings (*FSTABLE*) by financial institutions is noticeable (Prowse 1990; Lichtenberg and Pushner 1994; Isagawa 2007). The stable shareholdings by financial institutions, mainly represented by main banks, would have a positive effect on the cost of debt. Since the stable shareholders, including main banks, have superior information and ability to monitor the inefficient behaviors of firm managers, the cost of debt of firms with a high number of stable shareholders is expected to be lower.

Shareholders that are cross-owned are also expected to have an incentive to monitor firm managers because they share a relationship with the firms as trade partners (Osano 1996; Isagawa 2007). Further, cross-shareholding strengthens the stability of firm management by decreasing the threat of a hostile takeover, permitting managers to develop operations according to a long-term perspective. The perspective may be consistent with the interests of the bondholders, and it may lower the cost of debt.[199] In contrast, we can also predict that cross-shareholding would have a negative effect on the cost of debt. It is often argued that ***cross-shareholding*** enhances managerial

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[198] Further, prior studies examining executive compensation for Japanese firms usually employ total cash compensation data of the board directors as a proxy for executive compensation and present significant results (Kaplan 1994; Joh 1999; Shuto 2007). This is consistent with the above argument.

[199] Anderson et al. (2003) examine the relation between founding family ownership and the cost of debt, and argue that the family's strong interest in the firm's long-term survival could mitigate the divergence of interests between bondholders and shareholders.

entrenchment (Prowse 1992; Sheard 1994; Isagawa 2007), and the increased agency costs associated with managerial opportunism may increase the cost of debt. Therefore, while the coefficient on *FSTABLE* is expected to be negative, the expected sign on *CROSS* cannot be predicted.

Following Sengupta (1998) and Shuto et al. (2009), we set the control variables for the cost of debt.[200] The cost of debt can be explained in the following terms: (1) characteristics of the issuer, (2) characteristics of the issued bonds, and (3) market conditions.

For the variables controlling the characteristics of the issuer, we employ the operating income divided by net sales (*MARGIN*), debt equity ratio (*DER*), interest coverage ratio (*INCR*), and natural log of the total assets (*LNASIZE*). Firms with a higher profit margin and interest coverage ratio are expected to enjoy a lower *SPREAD*. Further, asset-rich firms are expected to have a lower *SPREAD* because of their solvency. Therefore, the expected signs of the coefficients on these control variables (*MARGIN*, *INCR*, and *LASSET*) are all negative. In contrast, we expect that the firms with a higher debt equity ratio have a higher *SPREAD* because the debt equity ratio reflects the default risk of the firm. The coefficient on *DER* is expected to be positive.

As a proxy for the characteristics of issued bonds, we use the log of the total amount of the bond (*BSIZE*), the number of years till maturity (*MATURE*), and the dummy variable (*BMCOMP*) that takes the value one if the bond management company that monitors the bond on behalf of the bondholders is established, else, its value is zero. Following the economies of scale in underwriting, the issue size would be negatively

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[200] Sengupta (1998) examines the effect of disclosure quality on the bond interest rate for US firms, and Shuto et al. (2009) investigate the bond yield spread for Japanese firms.

related to *SPREAD*. Bonds with a longer maturity period are expected to have a higher

SPREAD because of their greater default risk exposure. Bonds that are monitored by a

bond management company would enjoy a lower *SPREAD* because the establishment of

the bond management company is expected to contribute toward protecting the

bondholder. The expected signs of the coefficients of *BSIZE* and *BMCOMP* are negative,

and the expected sign of the coefficient of *MATURE* is positive.

Finally, we use risk premium (*RISKP*) as a control variable proxy for market

conditions. *RISKP* denotes the average values of *SPREAD* on bonds that are rated as *A* by

Rating and Investment Information Inc. (R&I) for the month of issue of the bonds.[201] We

expect the sign of the coefficient of *RISKP* to be positive because this variable is

expected to capture the time series variation in the risk premium over the business cycle.

Research model to test hypothesis 2

To measure the potential conflict between bondholders and shareholders (i.e., the

agency cost of debt), we construct a composite measure of the degree of the agency cost

of debt. Specifically, we reduce the following six financial variables related to the agency

cost of debt into a single index by using factor analysis:

ACD 1 = R&D expenditure/sales

ACD 2 = 1 − (fixed assets/total assets)

ACD 3 = cash and marketable securities/total assets

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[201] Sengupta (1998, p.464) calculated this variable on the basis of the interest rate of Moody's *AAA* bonds. However, we could not calculate the average *SPREAD* for the month of issue because there were insufficient issued bonds with the *AAA* rating to calculate *RISKP* in our sample. Following Shuto et al. (2009), we then used *SPREAD* on R&I's A bonds to compute *RISKP*.

ACD 4 = common dividends/total assets

ACD 5 = the standard deviation of *ROA* (net income/total assets) for the past five years

ACD 6 = the standard deviation of leverage (total debt/total assets) for the past five
years

These financial variables are expected to capture the severity of potential agency conflict between shareholders and bondholders. The first three variables (*ACD* 1, *ACD* 2, and *ACD* 3) are widely used in prior studies and are expected to measure the extent to which firm managers with risk-shifting incentives can engage in wealth-transferring investment policies that cannot be easily detected by the bondholders (Long and Malits 1985; Titman and Wessels 1988; Prowse 1990; Hwang and Kim 1998).

ACD 1 is the measure of the research and development intensity of the firms. *ACD* 2 is the proportion of the firm's assets not involved in fixed plant and equipment. These assets can be regarded as sources for the potential agency cost of debt because firm managers with risk-shifting incentives are likely to have a wide range of options for discretionary behavior and use these assets for other risky investments. *ACD* 3 measures the short-term liquidity of the firm's assets. Cash and marketable securities are expected to be another source of agency conflicts because of the risk-shifting incentives of managers because managers can substitute these assets for risky assets with relative ease.

The last three variables (*ACD* 4, *ACD* 5, and *ACD* 6) are generally based on the definition of Ahmed et al. (2002) who employ proxies for bondholder-shareholder conflicts over dividend policy. *ACD* 4 is the level of dividends, measured as a percentage of the assets. If a firm pays a high level of dividend, then the bondholders are more likely

to be concerned about the firm's dividend policy. Paying a high level of dividend is a typical moral hazard problem, and it possibly indicates more severe bondholder-shareholder conflicts over dividend policy.

ACD 5 is the proxy for the firm's operating uncertainty measured by the standard deviation of its return on assets. Watts (1993) and Ahmed et al. (2002) argue that greater uncertainty about future profits implies a greater risk that excess dividends based on temporarily inflated earnings may be paid to shareholders. Thus, greater uncertainty in this regard is likely to increase bondholder-shareholder conflicts over dividend policy.

Finally, we calculate *ACD* 6, as measured by the standard deviation of leverage (total debt/total assets), for grasping the moral hazard behaviors of managers on debt financing decisions. Firm managers can issue other debt instruments after the original debt is issued. The issuance of additional debt transfers wealth from the original debt holders to the managers, and in the process, creates a cost that reduces the value of firms (Watts and Zimmerman 1986). We use the volatility of leverage to measure the agency cost of debt on debt financing decisions because the frequent issuance of additional debt is likely to increase it.

Prior studies assume that *each* of these variables can be proxy for the potential agency cost of debt and obtain the results that are consistent with their assumption. In practice, however, it is likely that rational bondholders estimate the agency cost of debt of issuer firms by considering various types of moral hazard behaviors of managers *simultaneously* and take investment decisions. Focusing on a single variable does not completely capture the conflict between bondholders and shareholders, the agency cost of debt. Therefore, to comprehensively estimate the agency cost of debt of issuer firms, we

construct a composite measure of the degree of the agency cost of debt by using factor

analysis to reduce the above six financial variables into a single index.

【Insert Table 1 about here】

Factor analysis assumes that attribute measures are intercorrelated and that they

exert load on a single factor. Panel A of Table 1 reveals that the correlations among the

six financial variables are all positive and most of the correlations are significant as

expected. Panel B of Table 1 shows that a single factor loaded by these six attribute

measures justifies around 33.5% of the cumulative variance. Panel C of Table 1 reports

the factor loadings, all of which have positive signs as expected. Overall, the results

suggest that our factor analysis provide useful composite measures for the degree of the

agency cost of debt.[202]

To test hypothesis 2, we estimate the following models by using a calculated

composite measure of the agency cost of debt (*ACD*):

$$SPREAD = C + \beta_1 MO + \beta_2 MO*ACD + \beta_3 CROSS + \beta_4 FSTABLE$$

$$+ \beta_5 MARGIN + \beta_6 DER + \beta_7 INCR + \beta_8 LNASIZE + \beta_9 BSIZE$$

$$+ \beta_{10} MATURE + \beta_{11} BCFIRM + \beta_{12} RISKP + YEAR + \varepsilon, \qquad (2)$$

where

ACD = the agency cost of debt, computed using factor analysis based on six financial

variables: (1) R&D expenditures/sales, (2) 1 − (fixed assets/total assets), (3) cash

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and marketable securities/total assets, (4) common dividends/total assets, (5) the standard deviation of *ROA* (net income/total assets) for the past five years, and (6) the standard deviation of leverage (total debt/total assets) for the past five years.

The positive (negative) coefficient of *MO*ACD* provides evidence that the association between managerial ownership and interest rate spread is greater (smaller) when the agency cost of debt at issuing corporate bonds is larger (smaller). Therefore, the expected sign of the coefficient of *MO*ACD* for supporting hypothesis 2 is positive.

IV. Sample selection and descriptive statistics

Sample selection

The sample of Japanese firms was selected on the basis of the following criteria:

i) The firms issued straight bonds from April 1997 to March 2004.

ii) Banks, securities firms, insurance firms, and other financial institutions are eliminated from this study.

iii) The firms' financial year ends in March.

iv) **The financial statements, stock prices, and bond issue data necessary for this study are available from the respective databases mentioned below.**

The data on bond issues during the sample period are collected from the *Bond database* issued by I-N Information Systems Ltd. This database provides detailed security-specific information on corporate bonds, including interest rate spread, total

amount of the bond, number of years till maturity, and credit rating. We collected data

regarding managerial ownership, financial statements, and stock prices from *Nikkei*

NEEDS - Financial QUEST of Nikkei Media Marketing. The other corporate ownership

variables, cross-shareholdings and stable shareholdings, were obtained from the NLI

Research Institute, *the Data Package of Cross-Shareholding and Stable Shareholding*.

Cross-shareholders include all domestic companies listed on the Japanese stock markets

at the end of the fiscal year. The stable shareholdings are defined as the fraction of the

shares that are owned by stable shareholders at the end of the fiscal year. Stable

shareholders include financial institutions, trust banks, and other financial institutions

(i.e., brokerage companies and securities finance companies).[203]

Bond information must be matched with corporate ownership and financial

statement data. If the firm issues the bond for fiscal period *t*, then corporate ownership

and other financial statement data for the period *t – 1* are matched with the bond. The

accounting data is based on consolidated financial statements.[204] In order to ensure that

the results are not sensitive to extreme values, observations in the highest and lowest one

percent of *SPREAD* and of each accounting variable were omitted. The final sample

consisted of 643 firm-year observations.

Descriptive statistics

Table 2 presents descriptive statistics for the variables used in this study. It shows

that the mean (median) yield spread of a corporate bond over a government bond having

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[203] These also include parent companies.

[204] We also conducted robustness tests by using unconsolidated financial statements because consolidated financial statements were not required for *primary* financial statements under the Securities and Exchange Law of Japan before March 2000 (Shuto 2009). The results based on unconsolidated financial statements data are consistent with those of the analyses of the body.

the same characteristics is about 0.61% (0.51%), with a standard deviation of 0.425. For

our sample, the mean (median) percentage of managerial ownership (*MO*) is 0.007

(0.001), which exhibits fair skewness distribution. This value is lower than that of prior

studies that have examined the managerial ownership of Japanese firms (Teshima 2004;

Shuto and Takada 2008; Teshima and Shuto 2008).

【Insert Table 2 about here】

In our opinion, the lower value arises from the fact that our sample is restricted to

firms that issue corporate bonds. Since it is likely that the firms that issue bonds are

relatively large and mature, the managerial ownership of these firms is expected to be

smaller.[205] Further, we can observe that the value of managerial ownership in the sample

of Ortiz-Molina (2006) for US firms is considerably smaller than that of prior studies.

The value of cross-shareholding ownership (*CROSS*) is 12.6%, whereas that of stable

shareholding ownership (*FSTABLE*) is 16%.

【Insert Table 3 about here】

Table 3 indicates the correlations matrix for the variables on the analysis of cost of

debt. The lower left-hand portion of the table reports the Pearson correlations, and the

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[205] Prior studies that examine Japanese firms indicate that managerial ownership is negatively
correlated with firm size, which support our consideration. For example, Shuto and Takada
(2008), which examines Japanese firms from 1990 and 2005, indicate that managerial ownership
is negatively and significantly correlated with firm size (The coefficient of spearman correlation =
– 0.438, *p*-value = 0.000). In our sample, Table 3 also indicates that *MO* is negatively correlated
with *LNASIZE*.

upper right-hand portion presents the Spearman rank-order correlations. The Pearson correlations reveal that *MO* is positively correlated with *SPREAD* (0.16), as expected. Table 3 also shows that *MO* is positively correlated with *ACD* (0.13), and that *ACD* is positively correlated with *SPREAD* (0.30). The results suggest that managerial ownership is positively associated with the agency cost of debt for the fiscal year immediately preceding the bond issue, and that the agency cost of debt is positively associated with interest rate spread.

V. Main results

Managerial ownership and interest rate spread

We estimate regression model (1) to test hypothesis 1, the results of which are summarized in Table 4. The reported *t*-statistics are based on the heteroscedasticity-corrected covariance matrix by White (1980). In model (1), the coefficient of *MO* is 1.829 and significantly positive at the less than 0.01 level, as expected. This result holds after controlling for the other ownership structure, characteristics of the issuer, characteristics of the issued bonds, and market conditions. Thus, managerial ownership has an incremental explanatory power for the cost of debt when the other ownership structure and control variables are given. The result suggests that prospective bondholders interpret an increase in managerial ownership as an increase in the conflict of interest between bondholders and shareholders. This supports our first hypothesis.

【Insert Table 4 about here】

Further, we find that the coefficient on *FSTABLE* is significantly negative at the less than 0.01 level. The result is consistent with our prediction that stable shareholdings by financial institutions have a favorable impact on the cost of debt through efficient monitoring. This finding indicates that firms facing stronger external and effective monitoring by financial institutions are rewarded with lower yield spreads. The coefficient on *CROSS* is not significant, which suggests that cross-shareholdings have no impact on the cost of debt in the presence of other ownerships and control variables. With respect to control variables, they have their expected signs, except for *INCURE* and *MATUR*, and are statistically significant at conventional levels.

Agency cost of debt, managerial ownership, and interest rate spread

Table 5 shows the regression result of model (2) to test hypothesis 2. To support hypothesis 2, we expect the coefficient of *MO*ACD* to be positive in the model. In model (2), the coefficient of *MO*ACD* is 3.839 and significantly positive at the less than 0.01 level, as hypothesized. We also find that the coefficient on *MO* is no longer positive. The result indicates that managerial ownership has a stronger effect on interest rate spread when the agency cost of debt at the time of corporate bond issue is larger. This finding is consistent with hypothesis 2. We observe that our control variables have their expected signs, except for *MATUR*, and that most of the variables are statistically significant at conventional levels.

【Insert Table 5 about here】

1277

Overall, the evidence from Section V suggests that prospective bondholders use managerial ownership information to anticipate a firm's future agency cost of debt and default risk, and then they incorporate this prediction in the pricing of new corporate bond issues. Further, bond investors are likely to estimate a firm's future agency cost of debt and default risk higher when managers have already engaged in an action that transfers wealth from the bondholders to the shareholders or when managers have a wide range of options for this purpose at the time of bond issue.

VI. Additional analyses

The nonlinearity of managerial ownership and the cost of debt

As discussed in Section II, some prior studies suggest the possibility that managerial ownership is nonmonotonically related to the cost of debt (Bagnani et al. 1994; Ortis-Molina 2006). To address the possibility of the nonlinearity of managerial ownership and the cost of debt, we estimate the following model.

$$SPREAD = C + \beta_1 MO + \beta_2 MO^2 + \beta_3 CROSS + \beta_4 FSTABLE + \beta_5 MARGIN$$

$$+ \beta_6 DER + \beta_7 INCR + \beta_8 LNASIZE + \beta_9 BSIZE + \beta_{10} MATURE$$

$$+ \beta_{11} BCFIRM + \beta_{12} RISKP + YEAR + \varepsilon, (3)$$

where

MO^2 = the square of the fraction of the shares owned by directors

Although a piecewise regression model is used in the prior studies (Bagnani et al. 1994; Ortis-Molina 2006), we use the quadratic form mentioned above. Short and Keasey (1999) argue that the empirical application of the piecewise regression model has a drawback: it allows the coefficients of the managerial ownership variables to change only at predetermined levels of ownership. Since there is no theoretical guidance for the choice of the turning points on the piecewise regression model, we test the relationship between managerial ownership and the cost of debt using the quadratic form, which allows the turning points to be determined endogenously.

【Insert Table 6 about here】

Table 7 indicates the regression results. It shows that while the coefficient of MO is significantly positive, the coefficient of MO^2 is not significant. It also reveals that the explanatory power (adjusted R²) of model (3) is 0.562, which is slightly lower than that of model (1) in Table 1 (0.563). These results suggest that MO^2 has no incremental explanatory power for interest rate spread and is not consistent with the assumption that the relation between the cost of debt and managerial ownership is nonmonotonic.

In addition to the discussion regarding Section II, we can suggest two possible reasons for our results being different from those of Bagnani et al. (1994). First, as stated above, Bagnani et al. use a piecewise regression model to test the hypothesis. Second, we also indicate the possibility of sample selection biases because they obtained the sample from the list of Fortune 500 companies, which comprises only those firms whose revenues are extremely high.

The effect of bond rating on the relation between managerial ownership and the cost of debt

Our results are consistent with hypothesis 2 indicating that the association between managerial ownership and interest rate spread is greater when the agency cost of debt at the time of corporate bond issue is larger. To verify the robustness of the results, we estimate the regression model using the bond rating instead of *ACD* because the bond rating is often assumed to reflect an agency cost of debt and a firm's default risk (Sengupta 1998; Bhojraj and Sengupta 2003; Shuto et al. 2009).

Further, Bhojraj and Sengupta (2003) argue that the influence of corporate governance mechanisms would be more critical when dealing with debts of poor quality than otherwise. For high-risk firms, bondholders would rely more on the firm's governance structure because traditional measures of past profitability and leverage may not be very informative about future cash flows. Thus, we expect that the ownership structure should have a greater effect on bond yield spread for poorly rated bonds than on high-quality bonds. In particular, we estimate the following regression model:

$$SPREAD = C + \beta_1 MO + \beta_2 MO*RATE + \beta_3 CROSS + \beta_4 FSTABLE +$$

$$\beta_5 MARGIN + \beta_6 DER + \beta_7 INCR + \beta_8 lnASIZE + \beta_9 BSIZE + \beta_{10} MATURE$$

$$+ \beta_{11} BCFIRM + \beta_{12} RISKP + YEAR + \varepsilon, (4)$$

where *RATE* takes the value 1 through 10, representing the bond ratings of AAA, AA$^+$,

AA, AA$^-$, A$^+$, A, A$^-$, BBB$^+$, BBB, and BBB$^-$, respectively.[206]

We expect the coefficient on *MO*RATE* to be negative in model (4). The result of

the regression with the interaction term is given in Table 7. In model (4), the coefficient

of *MO*RATE* is positive and statistically significant at the 0.05 level, as expected. The

result reveals that managerial ownership has stronger effects on bond yield spread for

lower rated bonds, which is consistent with the results of the previous section and the

implication of the theory.

【Insert Table 7 about here】

Endogeneity of managerial ownership and the cost of debt

Our results suggest that shareholding of managers increase the cost of debt because

rational bondholders use managerial ownership information to anticipate a firm's future

agency cost of debt and default risk. While interpreting the results, we should consider

the joint determination of managerial ownership and the cost of debt. Firm managers may

consider the cost of capital of the firms when deciding whether or not to hold stocks of

their firms. If *MO* and *SPREAD* are jointly determined, the estimated results are biased

and difficult to interpret. To solve this simultaneity problem, we use a simultaneous

equation model in which the shareholding of managers and the interest rate spread are

jointly determined. Specifically, we consider the following system of equations:

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[206] The bond rating used in this analysis is from *Rating and Investment Information Inc* (R&I), the most comprehensive and popular database on bond ratings in Japan.

$$SPREAD = C + \beta_1 MO + \beta_2 CROSS + \beta_3 FSTABLE + \beta_4 MARGIN + \beta_5 DER$$

$$+ \beta_6 INCR + \beta_7 lnASIZE + \beta_8 BSIZE + \beta_9 MATURE + \beta_{10} BCFIRM$$

$$+ \beta_{11} RISKP + YEAR + \varepsilon \qquad\qquad (5)$$

$$MO = C + \beta_1 SPREAD + INSTRUMENTS + \varepsilon (6)$$

We estimate model (5) by conducting a two-stage regression. In the first stage, we regress *MO* on all exogenous variables from models (5) to (6). The estimation of this regression requires the construction of a set of variables (*INSTRUMENTS*) associated with managerial ownership. We use two variables as the instruments: sales growth and 1 − (fixed assets/total assets). In the second stage, we estimate model (5) instead of *MO* using the fitted value from the first stage. This value is labeled as *MOFIT*.[207]

【Insert Table 8 about here】

The results of the estimation of the second-stage regression are summarized in Panel A of Table 8. These results are consistent with those in the previous section: The coefficient of *MOFIT* is positive and statistically significant. We also test **hypothesis 2**

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[207] Using the Hausman (1978) test, we also assess whether the two variables (*MO* and *SPREAD*) are jointly determined. To conduct this test, we run the second-stage regression, while including both the actual variables and the predicted value from the first-stage regression. The test rejects the null hypothesis that the coefficient of the predicted value is zero (*p*-value = 0.000), which implies that the simultaneity problem does exist.

by using a two-stage regression.[208] Panel B indicates that the coefficient of *MO*ACD* is significantly positive, which supports our second hypothesis. These results suggest that our findings do not merely reflect the simultaneity between managerial ownership and interest rate spread.

Robustness of the results

Finally, we describe the analyses conducted further to verify the robustness of our results. First, we conduct a regression analysis on a year-by-year basis for our sample and estimate the *t*-value based on the approach used by Fama and Macbeth (1973). Since these empirical analyses are based on eight years of pooled cross-sectional data in which the same firm can appear multiple times in the sample, these observations may not be independent. This procedure may involve cross-sectional and autocorrelational problems. It is well known that the Fama and Macbeth (1973) approach can solve these problems and provide a better inference on the estimates.

【Insert Table 9 about here】

The results are summarized in Table 9. Panel A summarizes the results for hypothesis 1. We are mostly able to obtain the same results: the coefficient of *MO* is

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[208] Specifically, we consider the following system of equations:

$$SPREAD = C + \beta_1 MO + \beta_2 MO*ACD + \beta_3 CROSS + \beta_4 FSTABLE + \beta_5 MARGIN +$$
$$\beta_6 DER + \beta_7 INCR + \beta_8 LNASIZE + \beta_9 BSIZE + \beta_{10} MATURE + \beta_{11} BCFIRM +$$
$$\beta_{12} RISKP + YEAR + \varepsilon(7)$$
$$\boldsymbol{MO = C + \beta_1 SPREAD + INSTRUMENTS + \varepsilon(6)}$$

significantly positive. With respect to the test of hypothesis 2, the regression results are summarized in Panel B of Table 9, which provides evidence supporting hypothesis 2 that the coefficient of *MO*ACD* is significantly positive. Our results are robust under the Fama and Macbeth (1973) approach.

Finally, we also examine the relationship between managerial ownership and the cost of *equity capital*. If managerial ownership reflects the bondholder-shareholder conflict in our research setting, it is expected that managerial ownership would not be positively associated with the cost of equity capital because we cannot correctly predict how the severity of bondholder-shareholder conflict affects the cost of equity capital.[209] We use the cost of equity capital measured using the three-factor model based on the study by Fama and French (1993).[210] With regard to control variables, we added the logarithm of the market value of equity (*MV*) and capital asset pricing model (CAPM) beta estimated using data from 60 months preceding the most recent month of April (*BETA*) to model (1) and deleted the variables of the characteristics of the issued bonds from the model. Our untabulated result shows that the coefficient of *MO* is negative and not significant, which is consistent with our prediction.

VII. Conclusion

Agency theory predicts that shareholdings of managers create a conflict of interest between shareholders and bondholders (Jensen and Meckling 1976; Myers 1977).

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[209] If the incentive alignment effect on managerial ownership dominates in this setting, we can expect that managerial ownership is negatively associated with the cost of equity capital because the effect has a potential to increase the shareholder value of firms and decrease the cost of equity capital.

[210] For details on the estimation method of the cost of equity capital, see Appendix.

Limited liability shareholders may have an incentive to expropriate bondholders' wealth by taking investment and financial decisions aimed at reducing the value of the firm's outstanding debt. Rational bondholders would demand a higher interest rate to compensate for the added risk on owner-managers' behaviors.

To test the implication of the theory, we investigate the relationship between managerial ownership and the cost of debt, as measured by the interest rate spread on corporate bonds for Japanese firms. We find that managerial ownership is positively associated with interest rate spread on corporate bonds, as expected. We also find that stable shareholding has a significantly positive association with the interest rate spread, while cross-shareholding is not significantly correlated with it.

Further, we expect that the effect of managerial ownership on the cost of debt strengthens when the potential agency cost of debt of firms at the time of bond issue is larger. By employing factor analysis to measure the current agency cost of debt, we find that managerial ownership has a higher correlation with interest rate spread when the potential agency cost of debt at the time of bond issue is larger. The results are robust with respect to additional analyses, including the possibility of a nonlinear relationship, bond ratings, endogeneity problems, and the Fama and Macbeth (1973) approach.

Consequently, our results suggest that prospective bondholders in the Japanese market anticipate a firm's future agency cost of debt by using managerial ownership information and incorporate this prediction in the pricing of new corporate bond issues. Further results suggest that the prospective bondholders estimate a higher firm's future agency cost of debt because of managerial behavior that benefits the managers at the expense of bondholders' wealth when the current agency cost of debt at the time of bond

issue is already larger. Our results also suggest that prospective bondholders perceive stable shareholdings of financial institutions to be mitigating the wealth transfer problem between bondholders and shareholders.

Overall, our results suggest that managerial ownership is an important determinant of bond yield spread in the Japanese bond market. The results also suggest that bond investors focus on the current agency cost of debt at the time of bond issue to determine the interest rate in the bond contract. Further, the results show that accounting information is useful in estimating the agency cost of debt.

Finally, we find that agency theory on the conflict between shareholders and bondholders applies to the practice of the Japanese bond market after controlling for the unique Japanese ownership structure, cross-shareholding, and stable shareholding of financial institutions. While previous studies generally focus on the findings related to the unique ownership structure in Japan, our results indicate that the empirical implication of the traditional agency theory on managerial ownership is also supported by analyses for the Japanese bond market. Our study may be useful for reconsidering the functioning of the unique ownership structure of Japan in the bond market.

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TABLE 1
Factor analysis results on measuring agency cost of debt

Panel A: Pearson correlation matrix

	ACD 1	*ACD* 2	*ACD* 3	*ACD* 4	*ACD* 5	*ACD* 6
ACD 1	1.000					
ACD 2	0.247***	1.000				
ACD 3	0.018	0.615***	1.000			
ACD 4	0.128***	0.102**	0.149***	1.000		
ACD 5	0.225***	0.282***	0.090**	0.011	1.000	
ACD 6	0.201***	0.115***	0.183***	0.158***	0.315***	1.000

Panel B: Total variance explained

Component	Eigenvalue	% of Variance	Cumulative %
1	2.008	33.460	33.460
2	1.183	19.721	53.181
3	0.999	16.650	69.831
4	0.852	14.200	84.030
5	0.656	10.929	94.959
6	0.302	5.041	100.000

Panel C: Component Matrix / Factor loadings

	Loading
ACD 1	0.476
ACD 2	0.783
ACD 3	0.682
ACD 4	0.330
ACD 5	0.557
ACD 6	0.533

Note:

Table reports the results from computing the agency cost of debt (*ACD*) measure using factor analysis based on following six financial variables:

ACD 1 = R&D expenditures/sales

ACD 2 = 1 − (fixed assets/total assets)

ACD 3 = cash and marketable securities/total assets

ACD 4 = common dividends/total assets

ACD 5 = the standard deviation of *ROA* (net income/total assets) for the past five years

ACD 6 = the standard deviation of leverage (total debt/total assets) for the past five years

Principal components method is used for extraction method

*** Statistically significant at the 0.01 level of significance using a two-tailed *t*-test

** Statistically significant at the 0.05 level of significance using a two-tailed *t*-test

TABLE 2
Descriptive statistics

	Mean	Median	Max	Min	SD	Skewness	Kurtosis	N
SPREAD	0.606	0.510	1.990	0.050	0.425	0.833	2.945	643
MO	0.007	0.001	0.405	0.000	0.031	8.969	99.797	643
CROSS	0.126	0.120	0.486	0.000	0.088	0.475	3.059	643
FSTABLE	0.160	0.138	0.690	0.000	0.131	1.522	5.968	643
MARGIN	0.043	0.037	0.332	-0.032	0.042	3.533	21.700	643
DER	4.059	3.026	33.479	0.514	3.949	3.427	19.761	643
INCR	7.521	3.069	230.670	-1.230	17.315	7.061	67.591	643
LNASIZE	13.689	13.735	16.532	11.028	1.227	0.017	2.378	643
BSIZE	23.336	23.026	25.734	21.640	0.740	0.527	3.209	643
MATUR	7.398	7.000	20.000	2.000	3.870	1.764	6.388	643
BCFIRM	0.229	0.000	1.000	0.000	0.420	1.292	2.671	643
RISKP	0.711	0.560	1.318	0.175	0.350	0.334	1.566	643
ACD	0.000	0.030	4.397	-2.012	1.000	0.365	3.602	589

Note:

SPREAD = the interest rate spread on the first straight bond issued of the fiscal year; the spread is the difference between the interest rate on the bond issued by the firm and that on government bonds

MO = fraction of the shares owned by directors

CROSS = fraction of the shares that are cross-owned by non-financial companies (cross-shareholdings).

FSTABLE = fraction of the stable shareholdings by financial institutions

MARGIN = the operating income divided by net sales

DER = the debt equity ratio

INCR = the interest coverage ratio

LNASIZE = the natural log of the total assets

BSIZE = the log of the issue size

MATUR = the years to maturity

BMCOMP = an indicator variable that takes the value of one if a bond management company is established, and zero otherwise

RISKP = the risk premium: the average values of SPREAD on R&I's A bonds for the month of issue

ACD = the agency cost of debt, computed using factor analysis based on six financial variables; 1) R&D expenditures/sales, 2) 1 − (fixed assets/total assets), 3) cash and marketable securities/total assets, 4) common dividends/total assets, 5) the standard deviation of ROA (net income/total assets) for the past five years, 6) the standard deviation of leverage (total debt/total assets) for the past five years

TABLE 3
Correlations matrix

	SPR EAD	MO	CRO SS	FSTA BLE	MAR GIN	DER	INCR	LNA SIZE	BSIZE	MAT UR	BCF IRM	RIS KP	ACD
SPREAD	1	0.34	0.13	0.01	-0.31	0.03	-0.02	-0.40	-0.41	-0.46	-0.19	0.54	0.32
MO	0.16	1	0.18	0.05	0.04	-0.31	0.30	-0.67	-0.46	-0.25	-0.16	0.06	0.22
CROSS	0.08	-0.10	1	0.20	-0.04	-0.17	0.05	-0.26	-0.24	-0.03	-0.19	0.07	0.12
FSTABLE	0.01	-0.14	0.04	1	0.06	-0.17	0.06	-0.25	-0.10	0.00	-0.04	0.10	0.03
MARGIN	-0.13	0.31	-0.11	0.03	1	-0.36	0.58	-0.08	0.12	0.21	0.15	-0.07	-0.06
DER	0.05	-0.06	-0.22	-0.22	-0.21	1	-0.67	0.53	0.16	0.04	0.27	-0.03	-0.54
INCR	0.01	0.31	-0.15	-0.06	0.62	-0.11	1	-0.40	-0.13	-0.13	-0.27	-0.02	0.46
LNASIZE	-0.36	-0.12	-0.24	-0.23	-0.10	0.39	-0.09	1	0.65	0.31	0.19	-0.05	-0.35
BSIZE	-0.37	-0.05	-0.22	-0.09	0.06	0.09	0.01	0.68	1	0.34	0.21	-0.02	-0.19
MATUR	-0.40	-0.11	-0.06	-0.05	0.06	0.00	-0.12	0.37	0.33	1	0.02	-0.08	-0.33
BCFIRM	-0.10	0.01	-0.18	-0.07	0.06	0.16	-0.11	0.19	0.22	0.12	1	-0.12	-0.34
RISKP	0.54	-0.01	0.05	0.12	-0.05	-0.01	-0.03	-0.02	-0.01	-0.07	-0.14	1	0.06
ACD	0.30	0.13	0.10	0.08	-0.01	-0.43	0.38	-0.36	-0.16	-0.39	-0.32	0.05	1.

Note:

Spearman (Pearson) correlations are above (below) the diagonal.

SPREAD = the interest rate spread on the first straight bond issued of the fiscal year; the spread is the difference between the interest rate on the bond issued by the firm and that on government bonds

MO = fraction of the shares owned by directors

CROSS = fraction of the shares that are cross-owned by non-financial companies (cross-shareholdings).

FSTABLE = fraction of the stable shareholdings by financial institutions

MARGIN = the operating income divided by net sales

DER = the debt equity ratio

INCR = the interest coverage ratio

LNASIZE = the natural log of the total assets

BSIZE = the log of the issue size

MATUR = the years to maturity

BMCOMP = an indicator variable that takes the value of one if a bond management company is established, and zero otherwise

RISKP = the risk premium: the average values of SPREAD on R&I's A bonds for the month of issue

ACD = the agency cost of debt, computed using factor analysis based on six financial variables; 1) R&D expenditures/sales, 2) $1 -$ (fixed assets/total assets), 3) cash and marketable securities/total assets, 4) common dividends/total assets, 5) the standard deviation of *ROA* (net income/total assets) for the past five years, 6) the standard deviation of leverage (total debt/total assets) for the past five years

CEC = the cost of equity capital measured using the three factor model based on Fama and French (1993)

MV = the logarithm of the market value of equity

BETA = CAPM beta estimated using 60 months of data prior to the most recent April

TABLE 4

Regression results on the relationship between managerial ownership and bond spreads

Independent variable	Expected sign	Dependent variable = *SPREAD*	
		Model (1)	
		Coefficient	*t*-value
Constant		3.359***	(7.804)
MO	+	1.829***	(4.164)
CROSS	+/−	0.065	(0.488)
FSTABLE	−	-0.247***	(-2.978)
MARGIN	−	-1.380***	(-3.203)
DER	+	0.012***	(3.278)
INCR	−	0.001	(0.871)
LNASIZE	−	-0.069***	(-4.401)
BSIZE	−	-0.087***	(-3.821)
MATUR	+	-0.025***	(-7.599)
BCFIRM	+	0.079**	(2.179)
RISKP	+	0.500***	(8.558)
Adj. R^2		0.563	
N		643	

Note:

  SPREAD = the interest rate spread on the first straight bond issued of the fiscal year; the spread is the difference between the interest rate on the bond issued by the firm and that on government bonds

  MO = fraction of the shares owned by directors

  CROSS = fraction of the shares that are cross-owned by non-financial companies (cross-shareholdings).

  FSTABLE = fraction of the stable shareholdings by financial institutions

  MARGIN = the operating income divided by net sales

  DER = the debt equity ratio

  INCR = the interest coverage ratio

  LNASIZE = the natural log of the total assets

  BSIZE = the log of the issue size

  MATUR = the years to maturity

  BMCOMP = an indicator variable that takes the value of one if a bond management company is established, and zero otherwise

  RISKP = the risk premium: the average values of SPREAD on R&I's A bonds for the month of issue

  Indicator variables for the year (*Year*) are included but not reported.

t-statistics are provided in parentheses. They are based on White's (1980) heteroskedasticity-consistent standard errors and covariance.

*** Statistically significant at the 0.01 level of significance using a two-tailed *t*-test

** Statistically significant at the 0.05 level of significance using a two-tailed *t*-test

TABLE 5
Result of the differential effect of the agency cost of debt on the relationship between managerial ownership and bond spreads

Independent variable	Expected sign	Dependent variable = *SPREAD*	
		Model (2)	
		Coefficient	*t*-value
Constant		3.118***	(7.279)
MO	+	-1.131*	(-1.652)
*MO*ACD*	+	3.839***	(4.666)
CROSS	+/−	0.102	(0.768)
FSTABLE	−	-0.175**	(-2.053)
MARGIN	−	-1.496***	(-3.567)
DER	+	0.032***	(5.389)
INCR	−	-0.002	(-1.602)
LNASIZE	−	-0.105***	(-6.485)
BSIZE	−	-0.055**	(-2.420)
MATUR	+	-0.025***	(-7.370)
BCFIRM	+	0.018	(0.464)
RISKP	+	0.475***	(8.073)
Adj. R^2		0.607	
N		589	

Note:
  SPREAD = the interest rate spread on the first straight bond issued of the fiscal year; the spread is the difference between the interest rate on the bond issued by the firm and that on government bonds
  MO = fraction of the shares owned by directors
  ACD = the agency cost of debt, computed using factor analysis based on six financial variables; 1) R&D expenditures/sales, 2) 1 − (fixed assets/total assets), 3) cash and marketable securities/total assets, 4) common dividends/total assets, 5) the standard deviation of *ROA* (net income/total assets) for the past five years, 6) the standard deviation of leverage (total debt/total assets) for the past five years
  CROSS = fraction of the shares that are cross-owned by non-financial companies (cross-shareholdings).
  FSTABLE = fraction of the stable shareholdings by financial institutions
  MARGIN = the operating income divided by net sales
  DER = the debt equity ratio
  INCR = the interest coverage ratio
  LNASIZE = the natural log of the total assets
  BSIZE = the log of the issue size
  MATUR = the years to maturity
  BMCOMP = an indicator variable that takes the value of one if a bond management company is established, and zero otherwise
  RISKP = the risk premium: the average values of SPREAD on R&I's A bonds for the month of issue
  Indicator variables for the year (*Year*) are included but not reported.
t-statistics are provided in parentheses. They are based on White's (1980) heteroskedasticity-consistent standard errors and covariance.
*** Statistically significant at the 0.01 level of significance using a two-tailed *t*-test
** Statistically significant at the 0.05 level of significance using a two-tailed *t*-test
* Statistically significant at the 0.1 level of significance using a two-tailed *t*-test

TABLE 6
Regression results on the nonlinear relationship between managerial ownership and bond spreads

Independent variable	Expected sign	Dependent variable = *SPREAD*	
		Model (3)	
		Coefficient	*t*-value
Constant		3.356***	(7.795)
MO		1.939**	(2.019)
MO^2		-0.364	(-0.119)
CROSS	+/−	0.065	(0.491)
FSTABLE	−	-0.245***	(-2.951)
MARGIN	−	-1.383***	(-3.238)
DER	+	0.012***	(3.272)
INCR	−	0.001	(0.874)
LNASIZE	−	-0.068***	(-4.269)
BSIZE	−	-0.087***	(-3.812)
MATUR	+	-0.025***	(-7.587)
BCFIRM	+	0.079**	(2.180)
RISKP	+	0.500***	(8.552)
Adj. R^2		0.562	
N		643	

Note:

SPREAD = the interest rate spread on the first straight bond issued of the fiscal year; the spread is the difference between the interest rate on the bond issued by the firm and that on government bonds

MO = fraction of the shares owned by directors

MO^2 = square of the fraction of the shares owned by directors

CROSS = fraction of the shares that are cross-owned by non-financial companies (cross-shareholdings).

FSTABLE = fraction of the stable shareholdings by financial institutions

MARGIN = the operating income divided by net sales

DER = the debt equity ratio

INCR = the interest coverage ratio

LNASIZE = the natural log of the total assets

BSIZE = the log of the issue size

MATUR = the years to maturity

BMCOMP = an indicator variable that takes the value of one if a bond management company is established, and zero otherwise

RISKP = the risk premium: the average values of SPREAD on R&I's A bonds for the month of issue

Indicator variables for the year (*Year*) are included but not reported.

t-statistics are provided in parentheses. They are based on White's (1980) heteroskedasticity-consistent standard errors and covariance.

*** Statistically significant at the 0.01 level of significance using a two-tailed *t*-test

** Statistically significant at the 0.05 level of significance using a two-tailed *t*-test

TABLE 7

Result of the differential effect of bond ratings on the relationship between managerial ownership and bond spreads

Independent variable	Expected sign	Dependent variable = *SPREAD*	
		Model (4)	
		Coefficient	*t*-value
Constant		3.104***	(6.915)
MO	+	0.489	(1.194)
*LOWRATE*MO*	+	2.029**	(2.420)
CROSS	+/−	0.103	(0.769)
FSTABLE	−	-0.227**	(-2.627)
MARGIN	−	-1.570***	(-2.750)
DER	+	0.013***	(2.700)
INCR	−	0.003***	(2.230)
LNASIZE	−	-0.068***	(-4.231)
BSIZE	−	-0.078***	(-3.437)
MATUR	+	-0.021***	(-6.289)
BCFIRM	+	0.048	(1.145)
RISKP	+	0.465***	(7.360)
Adj. R^2		0.596	
N		520	

Note:

　SPREAD = the interest rate spread on the first straight bond issued of the fiscal year; the spread is the difference between the interest rate on the bond issued by the firm and that on government bonds

　MO = fraction of the shares owned by directors

　LOWRATE = an indicator variable that takes the value of one if R&I's bond ratings are A or BBB, and zero otherwise (i.e. AAA or AA).

　CROSS = fraction of the shares that are cross-owned by non-financial companies (cross-shareholdings).

　FSTABLE = fraction of the stable shareholdings by financial institutions

　MARGIN = the operating income divided by net sales

　DER = the debt equity ratio

　INCR = the interest coverage ratio

　LNASIZE = the natural log of the total assets

　BSIZE = the log of the issue size

　MATUR = the years to maturity

　BMCOMP = an indicator variable that takes the value of one if a bond management company is established, and zero otherwise

　RISKP = the risk premium: the average values of SPREAD on R&I's A bonds for the month of issue

　Indicator variables for the year (*Year*) are included but not reported.

t-statistics are provided in parentheses. They are based on White's (1980) heteroskedasticity-consistent standard errors and covariance.

*** Statistically significant at the 0.01 level of significance using a two-tailed *t*-test

** Statistically significant at the 0.05 level of significance using a two-tailed *t*-test

TABLE 8
The results from the estimation of the second-stage regression on *MO*

Panel A: The test of hypothesis 1

Independent variable	Expected sign	Dependent variable = *SPREAD*	
		Model (5)	
		Coefficient	*t*-value
Constant		1.945***	(3.842)
MOFIT	+	22.255***	(5.387)
CROSS	+/−	0.830***	(4.148)
FSTABLE	−	0.635***	(3.607)
MARGIN	−	-4.310***	(-6.368)
DER	+	0.017***	(3.824)
INCR	−	-0.009***	(-3.313)
LNASIZE	−	-0.034*	(-1.949)
BSIZE	−	-0.079***	(-3.310)
MATUR	+	-0.011***	(-2.775)
BCFIRM	+	0.016	(0.439)
RISKP	+	0.550***	(9.348)
Adj. R^2		0.569	
N		626	

Panel B: The test of hypothesis 2

Independent variable	Expected sign	Dependent variable = *SPREAD*	
		Model (7)	
		Coefficient	*t*-value
Constant		4.317***	(8.914)
MOFIT	+	-39.172***	(-5.128)
MO*ACD		40.940***	(5.534)
CROSS	+/−	0.126	(0.929)
FSTABLE	−	-0.393***	(-3.923)
MARGIN	−	-3.265***	(-6.088)
DER	+	0.037***	(6.469)
INCR	−	-0.003**	(-1.910)
LNASIZE	−	-0.178***	(-7.904)
BSIZE	−	-0.057**	(-2.501)
MATUR	+	-0.021***	(-6.076)
BCFIRM	+	0.099**	(2.390)
RISKP	+	0.450***	(7.697)
Adj. R^2		0.627	
N		586	

Note:*SPREAD* = the interest rate spread on the first straight bond issued of the fiscal year; the spread is the difference between the interest rate on the bond issued by the firm and that on government bonds

  MO = fraction of the shares owned by directors

  ACD = the agency cost of debt, computed using factor analysis based on six financial variables; 1) R&D expenditures/sales, 2) 1 − (fixed assets/total assets), 3) cash and marketable securities/total assets, 4) common dividends/total assets, 5) the standard deviation of *ROA* (net income/total assets) for the past five years, 6) the standard deviation of leverage (total debt/total assets) for the past five years

  CROSS = fraction of the shares that are cross-owned by non-financial companies (cross-shareholdings).

  FSTABLE = fraction of the stable shareholdings by financial institutions

  MARGIN = the operating income divided by net sales

  DER = the debt equity ratio

  INCR = the interest coverage ratio

  LNASIZE = the natural log of the total assets

  BSIZE = the log of the issue size

  MATUR = the years to maturity

  BMCOMP = an indicator variable that takes the value of one if a bond management company is established, and zero otherwise

  RISKP = the risk premium: the average values of SPREAD on R&I's A bonds for the month of issue

  Indicator variables for the year (*Year*) are included but not reported.

TABLE 9

Regression results on the relationship between managerial ownership and bond spreads: Fama and Macbeth (1973) approach

Panel A: The test of hypothesis 1

Independent variable	Expected sign	Dependent variable = *SPREAD*	
		Model (1)	
		Coefficient	*t*-value
Constant		3.016***	(4.740)
MO	+	2.317***	(3.182)
CROSS	+/−	0.237**	(2.207)
FSTABLE	−	-0.278***	(-3.011)
MARGIN	−	-1.122***	(-2.636)
DER	+	0.015***	(2.591)
INCR	−	0.001	(0.647)
LNASIZE	−	-0.058**	(-2.458)
BSIZE	−	-0.076**	(-2.070)
MATUR	+	-0.026***	(-5.644)
BCFIRM	+	0.060	(1.841)
RISKP	+	0.217	(1.631)
Adj. R^2		0.424	
N		643	

Panel B: The test of hypothesis 2

Independent variable	Expected sign	Dependent variable = *SPREAD*	
		Model (2)	
		Coefficient	*t*-value
Constant		2.875***	(4.465)
MO	+	-13.468	(-1.511)
*MO*ACD*	+	14.918**	(2.550)
CROSS	+/−	0.349**	(2.137)
FSTABLE	−	-0.253**	(-2.190)
MARGIN	−	-0.866**	(-2.374)
DER	+	0.039***	(5.192)
INCR	−	-0.005	(-1.489)
LNASIZE	−	-0.102***	(-5.452)
BSIZE	−	-0.046	(-1.379)
MATUR	+	-0.024***	(-5.254)
BCFIRM	+	0.005	(0.134)
RISKP	+	0.194	(1.538)
Adj. R^2		0.476	
N		589	

Note:

SPREAD = the interest rate spread on the first straight bond issued of the fiscal year; the spread is the difference between the interest rate on the bond issued by the firm and that on government bonds

MO = fraction of the shares owned by directors

CROSS = fraction of the shares that are cross-owned by non-financial companies (cross-shareholdings).

FSTABLE = fraction of the stable shareholdings by financial institutions

MARGIN = the operating income divided by net sales

DER = the debt equity ratio

INCR = the interest coverage ratio

LNASIZE = the natural log of the total assets

BSIZE = the log of the issue size

Appendix

Estimation method for the equity cost of capital

To calculate a firm's estimated equity cost of capital (*ECC*), we estimate the following equation.

$$ECC_{i,t} = \overline{R}_{f,t} + \hat{\beta}_{RMRF,i,t} * \overline{(R_M - R_f)_t} + \hat{\beta}_{SMB,i,t} * \overline{SMB_t} + \hat{\beta}_{HML,i,t} * \overline{HML_t}, (1)$$

where $(R_m - R_f)$ is the monthly return of the market portfolio in excess of the risk-free rate. *HML* and *SMB* are the monthly returns to the book-to-market and size factor mimicking portfolios, as described in Fama and French (1993). First, we calculate each factor's average monthly return over a period of 60 months before month *m*. And then, we estimate the expected annual factor returns, $(R_m - R_f)$, HML, and SMB, by compounding the resulting average monthly returns over a period of 12 months before the beginning of the fiscal year. Second, we estimate the betas associated with the firm's return to each of the three factors by estimating the following monthly time series regression, as described in Fama and French (1993). We estimate the following equation by considering the period of the latest 60 months preceding the beginning of the firm's fiscal year.

$$RET_{i,m} - R_{f,m} = \alpha_i + \beta_{RMRF,i}(R_{M,m} - R_{f,m}) + \beta_{SMB,i}SMB_m + \beta_{HML,i}HML_m + \varepsilon_{i,m} (2)$$

FINANCING ALTERNATIVES AND INCENTIVES FOR RENEWABLE ENERGY, FROM THE VIEW POINT OF TURKEY'S MEMBERSHIP TO THE EU

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Summary

In this paper we discuss the approaches to financing conventional energy sources and renewable energy projects from the standpoint of EU-Turkey relation, by focusing on how these transactions differ from more conventional oil trade at the other part of the world. Main features of conventional energy sources and renewable energy are analysed, from the strategic point of view and Turkey's regional position to the surrounding oil and gas producing countries. Strategic alignment and future oriented advantage of the increasing interest for Caspian and Mediterranean oil transfers to EU countries, has been critically evaluated. The incentives and tax-breaks used in EU including Turkey have been studied to illustrate principles and insure understanding. Attention is also given to different financing instruments and -methods. Finally, quantitative analysis and model on the energy incentives in Turkey are also presented in the paper.

1. Introduction

Global warming will result in major environmental, social and economic problems. These negative consequences of are already occurring, and others are inevitable even if the emission of atmospheric greenhouse gases could be stabilized at present levels. In the light of global warming, the political leaders of many countries have accepted that there is an urgent need to reduce greenhouse gas emission on a worldwide scale. At the same time, there is a potential for reducing such emissions by economies in energy use, energy efficiency and by energy generation from alternative, non-carbon-based sources.

Turkey as an emerging market will continue its effort to increase diversifies energy sources and the energy requirements. At present, most of Turkey's home-produced energy is generated from lignite and poor-quality coal; these are problematic in terms of carbon dioxide emission, so there is the possibility that Turkey's contribution to anthropogenic atmospheric carbon dioxide will grow over the coming years. More positively, Turkey has great potential for generating energy from renewable sources. For example, there is considerable possibility of using more hydropower. In addition, many regions of the country are suitable for wind power, and it has been calculated that Turkey could meet a large part of its energy needs from wind farms that could be located along its western seaboard. There are, however, potential barriers to the implementation of such a strategy. Apart from the financial investment that will be needed, there will need to be public support too.[211] (See Appendix 1 for Turkish Energy Sector Details)

Historically, feed-in laws have been the primary mechanism used to support renewable energy (RE) development in both Europe and the US, where there is a track record of some two decades of experience. At present, they are being applied in 16 EU member countries.[212] Green pricing programs allow electricity customers to express their willingness to pay for renewable energy development through direct payments on their monthly utility bills.

2. Energy Market and –policy

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[211] Kilinc, Stanistreet, Boyes; Incentives and disincentives for using renewable energy: Turkish students' ideas; Renewable and Sustainable Energy Reviews;2008.

[212] European PV Association Position Paper On a Feed-in Tariff for Photovoltaic Solar Electricity;; p.3; 2005.

The attributes of energy policy may include legislation, international treaties, incentives to investment, and guidelines for energy conservation, taxation and other public policy techniques. Frequently the dominant issue in the energy policy is the risk of supply-demand mismatch. Current energy policies also address environmental issues. Some governments state explicit energy policy, but, declared or not, each government practices some type of energy policy. The main elements intrinsic to an energy policy are:

- The energy self-sufficiency
- Energy pricing
- The goals for future energy intensity,
- Ratio of energy consumption to GDP
- Environmental externalities
- The diversification of energy recourses
- The national policy drive province, state and municipal functions
- The incentives accelerating energy sustainability and
- Security of supply.

Gas is an important input for electricity generation in the energy industry and therefore wholesale natural gas and electricity markets are vertically interrelated. The same is true for wholesale and retail electricity markets since retailers buy electricity from wholesalers. Vertical integration is widespread among European energy firms. Moreover, the merger activity appears to be accelerating as competition opportunities expand, incentive regulation diffuses more widely, and regulators have become less hostile to mergers. As a result, the vertically integrated firm can increase profits by raising both its end-user market share and price. Collaborative incentives, however, not only encourage cooperation but may also enhance free riding. Indeed, rewards based on aggregate profits hinder the identification of individual performances. As a consequence, individuals have more incentives to avoid hoping that the others will compensate.[213]

3. Developing Energy Project

The use of non-conventional renewable energy system technologies have received strong incentives in developed countries, especially after the third conference of the parties of Kyoto Protocol. One of the main reasons for these incentives was the existence of a climate change, with global consequences, and with anthropogenic causes mainly related to the use of fossil fuels. As this impact was not included in the fuel prices, the governments that signed the protocol is obligated to give economic incentives for clean technologies, and especially for RE.
Kyoto protocol was a compromise between the industrialized countries and Russia who decided to reduce the CO_2 emissions a 5.4% with respect to the 1990 emissions, for 2010. EU- countries like Denmark (29% of RE on its energy matrix) Germany (9.4%), Spain (3.4%) and Holland (4%) are clear examples where strong incentives for RE were applied, with successful results.[214]
If properly regulated and supported, the expansion of renewable energy could make unquestionable contributions in many areas. But if only left to the market forces, the expected effects may never occur or may even become problems to the society. As sites for renewable energy projects become scarcer and energy demand continues to grow, a derived demand for sites could be explained on the basis of the trade-off between their distance and their productivity. In particular, in a competitive market the change from one isoprofit to another by means of

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[213] Micola, Estanol, Bunn; Incentives and Coordination in Vertically Related Energy Markets; Journal of Economic Behavior & Organization; 2008
[214] Valencia M. Leonardo; New scenario of the non-conventional renewable energies on Chile after the incentives created on the ''Short Law I''; Renewable Energy;2008.

relocating a project should be associated to a corresponding increase or decrease in the price of the site, whereas sites lying over the same isoprofit should have similar prices. Of course such market will often be influenced by the multiple use of land, in which the implementation of a renewable energy project is just one of the possible uses explaining demand. Same isoprofit should have similar prices. Of course such market will often be influenced by the multiple use nature of land, in which the implementation of a renewable energy project is just one of the possible uses explaining demand.

Technologies, especially wind energy, but also small-scale hydro power, energy from biomass, and solar thermal applications, are economically viable and competitive. The others, especially photovoltaic, depend only on increasing demand and thus production volume to achieve the economy of scale necessary for competitiveness with central generation. This should be seen against the rapidly improving fiscal and economic environment being created in the EU both by European legislation itself swinging into full implementation and the Member States' own programmes and support measures, which despite the short-term macro-economic background, are accelerating rapidly at the time of publication.

In this context, the generation of energy from renewable sources is beginning to gather strength throughout the world, motivating leaders to implement policies aimed at increasing the number of projects according to this line of thinking.

Source: Zulunga, Dyner; Incentives for renewable energy in reformed Latin-American electricity markets: the Colombian case; Journal of Cleaner Production; 2006

Although the reduction of poverty is perhaps the most important concern in the developing countries, there is significant environmental interest associated with the use of new energy sources which will help to reduce the environmental impacts that have been caused by traditional forms of energy based on the combustion of fossil fuels. From simulations carried out for the Colombia market, it is less efficient to promote renewable energies through fiscal policies such as income tax exemption, while other kinds of policies such as direct subsidies have a major effect as far as accelerating the process of technology diffusion. Therefore, it remains for the government to set the appropriate incentives in order to efficiently exploit renewable energy resources.

Although in the process of Turkish market, renewable energy did not occupy a prominent place, there now seems to be a new international trend to develop these resources, which will begin to

play a significant role, especially in meeting the increasing demands for energy in the development and integration process to the EU.[215] Biomass and hydropower generation have an industrial capacity and experience knowledge that lacks in the case of wind.[216]

Well-developed countries like the United States, the United Kingdom, Germany, France and Japan are advancing in the application of special programs and in the introduction of specific laws to stimulate the use of these sources in the electricity generation. An important factor is obvious in the interest of these countries: the predominance of thermoelectric generation using fossils fuels and the negative environmental impact associated to this type of generation. Besides, the electrical sector in both the United Kingdom and the United States underwent a process of restructuring in an attempt to introduce a competitive market in some activities. Faced with this scenario, it became necessary to adopt specific measures to protect electricity generation using alternative energy sources.[217]

A feed-in tariff involves the obligation on the part of a utility to purchase electricity generated by renewable energy producers in its service area at a tariff determined by public authorities and guaranteed for a specific period of time (generally 20 years). A FiT's value represents the full price per kWh received by an independent producer of renewable energy, i.e. including a premium above or additional to the market price, but excluding tax rebates or other production subsidies paid by the government.

Green pricing represents a market solution to various problems associated with regulatory valuation of the non market benefits of renewables. Under green pricing programs, utilities can encourage the development of renewable energy while simultaneously measuring customer support for renewables under semi-competitive conditions. Customers willing to pay a price premium for renewable energy can do so by adding some incremental amount of money to the irregular electricity bills. [218]

Also with the acceptance of Kyoto protocol by developed countries tradable green certificate markets are established. These systems have different designs in different countries but a common feature is that they seek to replace direct public subsidies for renewable energy with incentive systems that use the market mechanism. More precisely, the objective is to create a market where various kinds of green electricity compete on equal terms to relieve the government of the burden of direct involvement in the electricity sector's investment decisions. [219]

4. The reduction of carbon emissions in EU

Environmental issues are increasingly driving energy investments in Europe. EU wants to reduce greenhouse gas emissions by 20% by 2020. EU also wants 10% of its cars and trucks to run on bio fuel, and to ensure that 20% of its power comes from renewable energy sources such as solar and wind power and hydroelectricity. Renewable energy sources currently account for less than 7% of EU energy use. Carbon transactions are defined as purchase contracts whereby one party pays to counter party in return for GHG emissions reductions or for the right to release a given

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[215] Zulunga, Dyner; Incentives for renewable energy in reformed Latin-American electricity markets: the Colombian case; Journal of Cleaner Production; 2006.

[216] Dutra, Szkolo; Incentive policies for promoting wind power production in Brazil: Scenarios for the Alternative Energy Sources Incentive Program (PROINFA) under the New Brazilian electric power sector regulation;Renewable Energy;2007.

[217] Cavaliero, Da Silva; Electricity generation: regulatory mechanisms to incentive renewable alternative energy

sources in Brazil;Ênergy Policy;2005.

[218] Green Pricing: Encouraging the Development of Renewables in a Deregulated Environment; Renewable Energy Annual; p.6; 1995.

[219]Amundsen, Nese; Integrated Tradable Green Certificate Markets: Functioning and Compatibility; Institute for Research and Administration Bergen; p.2; 2005

amount of GHG emissions that the buyer can use to meet its compliance objectives vis-à-vis climate change mitigation. Carbon transactions can be grouped into two main categories.

Allowance-based transactions, in which the buyer purchases emission allowances created and allocated by regulators under cap-and-trade regimes, such as Assigned Amount Units (AAUs) under the Kyoto Protocol, or EUAs under the EU ETS. Such schemes combine environmental performance and flexibility, through trading, in order for mandated participants to meet compliance requirements at the lowest possible cost.

Project-based transactions, in which the buyer purchases emission credits from a project that can verifiably demonstrate GHG emission reductions compared with what would have happened otherwise. The most notable examples of such activities are under the CDM and the JI mechanisms of the Kyoto Protocol, generating CERs and ERUs respectively.

Carbon cap-and-trade regimes allow, for the most part, for the import of credits from project-based transactions for compliance purposes. This helps to achieve the environmental target cost effectively through access to mitigation potentials from additional sectors and additional countries. Mandatory wholesale mechanisms are the other key driver in the U.S. A variation of this, PURPA, led to much of the early wind energy development in the U.S. Other countries, such as Spain and Germany, have also used variations of this mechanism. A weakness of the PURPA/feed-in tariff approach is that it doesn't guarantee any particular long-term growth.

Dr. Engelhard (RWE Rheinbraun) criticised that the caps are only given and only introduced for energy intensive installations, this means that only 1/3 of Greenhouse gases (GHG) of the EU are covered and that the cap in trade is introduced for CO2 not for all six Kyoto gases.Dr. Engelhard reckons with unavoidable distortions in competition and disadvantages for the European industries. Dr. Engelhard expects a transfer of energy intensive production to countries without regulations, this means to Eastern Europe, developing countries or to the United States.

Combining technical assistance with financing, EBRD aims to help local authorities overcome common obstacles to financing energy efficiency:

- Increasing awareness and prioritization of energy efficiency gains

- Allocation of resources for energy audits and project preparation

- Tendering procedures

- Management of larger-scale programs that may need additional dedicated resources.

Investment barriers addressed through credit for municipal EE investments and introduction of the sale of receivables as a means of EE financing.

The renewable sector in Europe has long benefited from environmental concern over fossil-fuel fired plants, and has been further encouraged by European-wide and single-nation commitments to achieving 22% of electrical output from renewable sources by 2010, in order to meet Kyoto Treaty objectives. Renewable Energy Vision in Europe suggests:

- A very high rate of deployment of renewable energy projects is needed
- Additional form of financial support is required
- Cannot rely on market alone
- Regulatory encouragement
- Supporting research and development

Sustainable Energy Fund (SEF), a private, non-profit, financial organization, offers commercial loans for new or retrofit energy-related projects to established commercial, industrial, municipal,

and non-profit entities. SEF will also consider funding or co-funding the energy-portion of a new building construction or a building remodelling project.

Created in 2000, the European Renewable Energy Council - EREC - is an umbrella organisation of the European renewable energy industry, trade and research associations active in the fields of photovoltaic, small hydropower, solar thermal, biomass, wind energy and geothermal energy, thus representing the entire renewable energy sector.[220]

There are several benefits of renewable energy. The most important one is environmental benefits, which include avoiding carbon dioxide (CO_2) emissions which helps to combat climate change. Second, there are national security benefits, such as achieving greater energy independence, as renewable energy is largely a domestic resource; and reducing overall payments to potentially hostile regimes or other groups in countries with oil and natural gas reserves. Third, there are general economic benefits, including possible reductions in the price of fossil fuels by lessening demand for them, and increased stability in energy prices through diversification of power supplies. Finally, in some cases there is a specific economic benefit, when developing renewable energy is the lowest-cost option available, based on avoiding fuel costs and other economic considerations.

5. Financial strategies for energy in Europe

In the early preparation phases of retrofit projects, financial issues, real or imagined, tend to become very important barriers to the realization of innovative low-energy projects in the minds of many decision-makers or technicians involved in the design and implementation of public buildings. This is mostly due to the fact that budgets for public building retrofits are often limited, and decision-makers tend to consider initial costs rather than operating, maintenance or life-cycle costs as those significant for refurbishment.

The possibility of internal allocation of funds by a public enterprise, in order to apply energy efficient retrofitting measures to its own buildings is also quite promising. It is a widespread financing method called project finance and is mostly related to the development non-recourse financing of pipelines, electric generating plants, sports stadiums, industrial facilities and similar

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[220] EREC is composed of the following European non-profit associations and federations:
AEBIOM (European Biomass Association), EGEC (European Geothermal Energy Council), EPIA (European Photovoltaic Industry Association), ESHA (European Small Hydropower Association), ESTIF (European Solar Thermal Industry Federation), EUBIA (European Biomass Industry Association), EUREC Agency (European Renewable Energy Research Centres Agency), and EWEA (European Wind Energy Association).
The European Renewable Energy Council and the member associations are located in the Renewable Energy House (REH). The REH is a model showcase for renewable energy technologies in a monument-protected building in the European quarter of Brussels.) (EREC is committed to the following objectives: Acting as a forum for exchange of information and discussion on issues related to renewables as well as to represent the European RES industry & research community, Providing information and consultancy on renewable energies for the political decision makers on local, regional, national and international levels, Launching policy initiatives for the creation of positive frameworks for renewable energy sources, Encouraging European technologies, products and services on global markets. Europe is at the forefront of renewable energy development worldwide and has significant experience in the formulation of proactive policy measures in this area. Europe is in fact the global leader in RES technology development. Renewable energy sources (RES) make a major contribution to the security of energy supply, the risk reduction of fuel-based price increase and volatility, the mitigation of climate change, and environmental protection. Renewable energy sources are a key element for sustainable development including the creation of jobs and wealth oriented to thefuture). For more information on EREC and the REH see: www.erec-renewables.org.

capital-intensive infrastructure projects. It encompasses a complex mix of sophisticated legal, financial, regulatory and management issues that only a handful of organizations have mastered. The key factors relating to the project finance include the following:

- Solar, thermal and wind facilities
- Gas processing and liquefaction facilities
- LNG receiving terminals
- Chemical and fertilizer plants
- Paper recycling plants
- Waste-to-energy facilities
- Water treatment facilities and
- Public infrastructure

Long-term project financing is increasingly available in EU and Turkey/ though major deals are difficult to structure and will require innovative approaches. The EBRD also encourages developers to submit a proposal for renewable energy project funding.

The World Bank has been assisting Turkey to develop its market economy helping develop and implement a strategy to take advantage of the Kyoto Protocol in the areas of "green investment" and carbon trading. When the World Bank provides financing to its member countries for investment projects, each project is governed by a legal agreement between the World Bank and the government agency who receives the funds. (See Appendix 2 and 3 for World Bank and European Investment Bank Financed Energy Projects in Turkey).

IFC offers a wide variety of financial products for private sector projects in developing countries. A company or entrepreneur seeking to establish a new venture including energy project or expand an existing enterprise can approach IFC directly by submitting an investment proposal.

Ex-Im Bank has Environmental Standards and Guidelines applied to each project considered under its Loan and Guarantee Programs**.** Environmental Exports Program Consists of pro-active business development and enhancements to existing Ex-Im Bank programs. Support for environmentally-beneficial exports and renewable energy, structured finance involves elements of both corporate and limited recourse project finance. Like project finance, it involves special features to enhance the credit of the borrower. Ex-Im Bank: top priority to support renewable energy and energy efficiency exports.Ex-Im Bank supports short, medium, and long-term financing to creditworthy international customers, and working capital guarantees to U.S. exporters.

Overseas Private Investment Corporation (OPIC) Financing provides medium- to long-term funding through direct loans and loan guaranties to eligible investment projects in emerging markets. Projects are categorised according to their potential impacts, with those given an 'A' rating requiring both an environmental impact assessment (EIA) and an environmental management programme (EMP) to be in place. The largest project known to have been given an A rating is the $3.6 billion BTC pipeline. This connected a new oil field in the Caspian Sea off Azerbaijan to a terminal at Ceyhan in Turkey. Project may also have found a way for the energy efficiency interventions to pay for themselves via the international carbon credit market.

6. Incentives to the Energy Production from Renewable Sources

The incentives are intending exclusively for the production of energy from renewable sources for usage, while they are not available to energy producers that solely intend to sell energy. The parties that may benefit from these incentives are specified in the project notices. The projects include the following programs: "Photovoltaic Cell"; "Sun-energized municipality"; "Projects for smaller islands"; "Photovoltaic plants of high architectural value"; "Solar-energy Program for

Municipalities and gas-works". The increasing production of energy from renewable sources is in fact considered by the EU as a high priority target of the Community.

European incentives for energy investments involve feed in tariffs, price premiums, tradable green certificate, competitive tendering, investment subsidies, and tax incentives. Energy consumption per capita in EU 25 was equivalent to 3, 6 toe in 2005, compared to 7, 8 toe/capita for the USA and 4, 1 toe/capita for Japan. In EU there is a clear trend for more liberalized markets. Poland (17%) and United Kingdom (22%) are countries in which the leading generator's market share is lower whereas in Cyprus and Malta there is only one generator. Romania and Bulgaria are energy intensive countries.

The share of renewable energy should be above 20% by 2010 in EU whereas according to current data Austria (78%) has higher shares of RES. The EU 27 production of primary energy is 871,247,000 toe.), United Kingdom (183,946,000 toe) and Germany (136,850,000 toe) are largest producers. Energy dependency of Europe is 52%. Cyprus (100.2%), and Portugal (88.2%) are more dependent whereas Norway (-609%) is not energy dependent. Below is the EU 27 consumption breakdown of energy resources.

Source: Eurostat May 2008

The mainstay of the new policy is a core energy objective for Europe: that the EU should reduce greenhouse gas emissions from its energy consumption by 20% by 2020. This objective will enable for EU to measure progress in re-directing nowadays energy activity towards one that will fully meet the challenges of sustainability, competitiveness and the supply security. The EU target needs to be seen in the context of the need for international action of industrial nations on climate change. When such a commitment exists, the EU will need to do more. The target should therefore be to increasing the target to a 30% reduction by 2020 and 60-80% by 2050. The concern is not only about climate change, it is also about Europe's security of energy supply, economy and the prosperity of its citizens. Achieving the objective can limit the EU's growing exposure to increased volatility and prices for oil and gas, bring about a more competitive EU energy market, and stimulate technology and employment. [221]

The main criticism of alternative energy is that, even with government assistance, it is still more expensive than many traditional sources of energy. But advocates argue that simply comparing the cost of generating electricity by burning coal with the cost of generating electricity by

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[221] European Commission; An Energy Policy for Europe - the need for action; Proposed EU Energy Policy; p.2.

capturing the sun's rays misses the point. Energy use imposes other social costs that are hard to quantify.[222]

In EU, there is no framework for fiscal incentives but EU support national direct fiscal measures. The incentives are of various kinds but commonly used are tax reductions and exemptions, flexible depreciation. The aids primarily cover energy efficiency, renewable energy, cogeneration, district heating in the form of tax exemptions and reductions. [223] In 2007 energy and transportation projects of size € 621,256,526 won up to 100% EU grants. Member-States have adopted a variety of policies and mechanisms in order to support renewable energy. The feed-in tariffs are applied in twenty Member-States consisting in obliging the power system to absorb electricity from renewables at a given price or premium. Ten Member-States have implemented a quota system or a purchase obligation system, which consists in obliging electricity suppliers to include renewable energy within their supply portfolio. Many Member-States also use investment subsidies, tax rebates or other incentives to support renewables. Independent of their exact form, all supportive mechanisms for renewables implies a reduction in the cost of capital which provides incentives to investors in renewable energy. Once provided its common usage in the market, renewable energy incentives can be decreased gradually, since by the time the prices will fall due to technological advancement.[224]

7. European Incentives to Energy project

Energy subsidies are widespread and diverse, varying greatly in size and type among fuels, end-use sectors and countries. They also fluctuate over time. Putting a monetary value on some types of subsidies can be extremely difficult. The impact of a particular government intervention on production cost or price has to be differentiated from the effects of all other factors that influence costs and prices. In addition, reliable data on actual selling prices are not always available.

Estimates of the size of subsidies in a given country and to a given fuel depend heavily, therefore, on the definitions and methodologies used and the time period considered. Big differences in definitions can make comparisons of individual studies of the impact of energy subsidies in specific countries or regions difficult and complicate discussions of issues relating to subsidies and their reform. Most studies attempt to measure specific types of subsidy, or use approaches that capture only some of the effects of subsidies.[225]Systems based only on tax incentives are applied in Malta and Finland. In most cases (e.g. Cyprus, UK and the Czech Republic), however, this instrument is used as an additional policy tool.[226]

Financial instruments include economic incentives to promote energy efficiency, as well as fiscal measures. Financial incentives aimed at encouraging investment in energy efficient equipment and processes by reducing the investment cost, either directly (economic incentives) or indirectly (fiscal incentives).

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[222] Gianfranco Puopol;,Incentives to the Energy Production from Renewable Sources;p.3;2001
[223] Carol Ní Ghiollarnáth, Corporate Income Tax Incentives for Renewable Energy Generation: Has the Double Dividend Gone Astray?
[224] Trends to 2030 Update 2007; European Commission Directorate General for Energy and Transport;p.21.
[225] Trevor Morgan; ENERGY SUBSIDIES: Their Magnitude, How they Affect Energy Investment and Greenhouse Gas Emissions, and Prospects for Reform; Menecon Consulting; p.7;2007
[226] The support of electricity from renewable energy sources; Commission of the European Commodities; p.5; 2005.

7.1. Economic Incentives

Economic incentives fall into two broad categories: investment subsidies and soft loans. In most of the European countries, the economic incentives are related to energy or environment funds with financing mechanisms that tend to depend increasingly upon the banking system rather than coming from the public budget. The main objective of subsidies is to reduce the investment cost for investor and -consumers. Subsidies can be defined as a fixed amount, as a percentage of the investment, or as a sum proportional to the amount of energy saved. Subsidies may also be given to equipment producers to encourage the development and marketing of energy efficient equipment.

Subsidies schemes often attracted consumers who would have carried out the investments even without the incentive, the so-called "free riders" .Consumers who could use the subsidies and were targets of the scheme did not take advantage of them because they were unaware of their existence. This demonstrates the challenges of informing a multitude of consumers adequately about the existence of the incentives. Finally, subsidy schemes may have a negative impact on the market by leading to an increase in the cost of equipment and to the deployment of equipment with a poor quality. They are also restricted to certain types of investments, with a long payback time but high efficiency gains or to innovative technologies.

Soft loans are offered at subsidized interest rates to consumers who invest in energy efficient technologies and equipment. Soft loans have the advantage of being easily implemented by banking institutions. Nevertheless, due to the current low level of interest rates, such measures are often not attractive to industrial companies. In some cases they are given directly to installers, which seem to be a promising approach in others, if well managed. This removes one important barrier, which is the access of consumers to information as the installers may have a commercial approach to promote energy efficiency.

7.2. Fiscal Incentives

Fiscal incentives include measures to reduce the tax paid by consumers who invest in energy efficiency. They comprise accelerated depreciation, tax credits and tax deductions. Recently, tax reductions on energy efficient equipment or on energy efficiency investments (reduction in VAT rate) have been introduced in many countries. Tax credits and accelerated depreciation are considered better than subsidies, as they are less costly. They can work well if the tax collection rate is sufficiently high. They usually have a poor performance in an economy in recession or in transition. In European countries, tax reduction also exits for clean and efficient cars. Tax concessions for companies that make concrete commitments to energy efficiency gains/ CO_2 reduction and meet their target are also another innovative way to promote investment in energy efficiency and CO2 reduction.

A total of 2.3 billion Euros worth of EU grant funds have been allocated to Turkey to support the country's harmonization process until 2010 within the framework of the Instrument for Pre-Accession Assistance. The EU wants to facilitate Turkey's preparation for EU membership by funding projects. The EU has allocated approximately 1 billion euros of grant funds to Turkey since 2004. All projects and grant funds had a single objective "preparation for EU membership. This is important for two reasons: The first is to help Turkey, as a whole, to reach the economic standards of the EU. And the second is also to try to decrease gaps within Turkey."

Power demand in Turkey is growing faster than anywhere else in the world but China, according to Hilmi Güler, the country's energy minister. He estimates that the electricity sector alone will
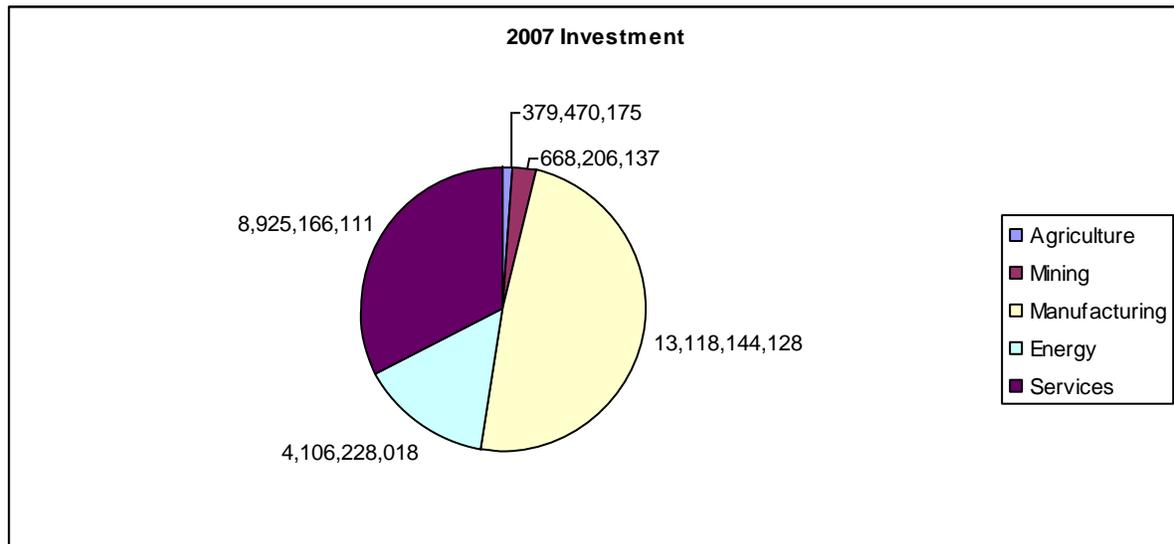
need \$100 billion in new investment by 2020. As the government is still struggling to reduce its debt, much, if not most, of this money will have to come from the private sector. Despite liberalization progress, energy prices are still under control of government.[227]

The regulated part of the Turkish electricity market is under the control of government companies, but this will change drastically with the privatisation of the generation and distribution assets starting in early 2008, and is wide open to foreign investment. Turkey aims at full utilisation of indigenous coal and lignite reserves along with hydro and renewable resources. Integration of nuclear energy into the Turkish energy mix will also be one of the main tools in responding to the growing electricity demand while avoiding increasing dependence on imported fossil fuels. Privately owned nuclear power plants corresponding to a total installed capacity of 5,000 MW will be commissioned by 2020. New laws and regulations are also being adapted one by one, recently including the attractive Renewables and Energy Efficiency laws.[228]

The electricity regulation in Turkey aims to provide competitive, transparent market for the players and establish long term bilateral agreements. Accordingly there will be a power exchange market which will operate real time and day-ahead markets. Hourly prices will be established in day-ahead markets based on demand and supply. There will be a balancing market for reserve capacity and a future market that provides hedging for the market participant. Eventually integration with the European markets will be maintained.

Privatization Board of Turkey is working actively to transfer utilities to private sector in order to maintain an efficient, liberal market as in the EU. The privatizations of two electricity distribution companies and a portfolio of 9 power plants including hydroelectric and geothermal took place in 2008 with total revenue of \$ 2, 3 billion. The rest of the electricity distribution network and other government owned power plants including thermal is on privatization schedule. The financing operations of The European Investment Bank in Turkish energy sector has been increased in 2007and 2008.

According to Turkish incentive data; the amount of incentives and the distribution according to sectors are given below. Considering the lack of energy supply and government funds for investment the incentives on energy sector has an important role for Turkish economy.

2007 Investment

379,470,175
668,206,137
8,925,166,111
13,118,144,128
4,106,228,018

- Agriculture
- Mining
- Manufacturing
- Energy
- Services

[227] Katinka Barysch;Turkey's role in European energy security; Center for European Reform;p.2.
[228] Turkey Trade and Investment ; UK Trade and Investment .

Although there is an increase in the energy investment of Turkey, the lack of supply will carry energy prices upward and the trend investment is expected to increase further in the following years.

Energy market in Turkey is being liberalized, which is mainly motivated by the lack of energy supply and twinning with EU legislation. According to the new energy market law, private sector investment incentives are brought in practice. For renewable energy the government has purchase guarantee which makes financing projects easier. According to the legislation in order to avoid monopolies, a company may not produce more then 20% of Turkey's installed capacity. Energy companies that will start operation before 2012 are exempt from payments related with line lease, and taxes related with all the equipment for the power plant. Also customs are exempt as an incentive measure for energy institutions.

Turkey has a strong potential for solar- and wind energy. The wind energy in Turkey has become important, although it is in construction phase yet. But an emphasis should be given on the development of solar hot water heating. Turkey has considerable geothermal resources that are used primarily for heat supply. Total installed capacity of thermal systems is ca. 25 MWth. The interest to the thermal water utilization is increasing in the last years. There are prospects for binary geothermal plants using existing wells at abandoned oil and gas fields.

8. An Appraisal regional energy resources from the standpoint of Turkish membership to the EU

The potential for strategic realignment in the Eurasia revolves around Turkey and its future. There are different possible scenarios, the most important of which is the full position in the EU membership. The second case is that Turkey is left outside the EU. Another possible alternative is that, Turkey whose patience is exhausted over Europe's incessant demands and decides to go its own way.

There are sufficient energy sources for renewable energy consumption inside Turkey. Moreover oil and gas production of surrounding countries will be transferred to the European centre via

Turkey. Yet Russia would prefer to upgrade the existing Central Asia-Centre gas pipeline with outlets to Ukraine and further to Western Europe.[229] The pipeline goes around the Caspian Sea via Turkmenistan, Kazakhstan and Russia. The three countries are ready to discuss a gas transportation consortium. Statements to this effect were made by Nazarbayev and other high-ranking officials. This project provides for the construction of a pipeline across the bottom of the Caspian Sea with an annual capacity of 30 billion cubic meters of gas, which could be transported to Europe through the Baku-Tbilisi-Erzurum and Nabucco pipelines. The United States suggested the Trans-Caspian project in 1996, but Gazprom objected to it because the pipeline bypasses Russia.

Kazakhstan is the second largest oil producer after who is trying to change towards a free market in energy and encouraging foreign investment to flow its oil and gas resources. Kazakhstan is shifting its trade and energy patterns away from the former Soviet Union and toward its neighbours in Central Asia, the Caucasus, and Turkey. [230]

The United States has stepped in to prevent the collapse of the first project to construct a natural gas pipeline that will bypass Russia. It is pressuring the EU and Central Asian countries to complete plans for the construction of the Nabucco pipeline, which is intended to link up with the Baku-Tbilisi-Erzurum and planned Tran Caspian networks. It will bring gas 3,300 kilometres from Central Asia under the Caspian Sea to Turkey, through Romania, Bulgaria and Hungary to Austria. The $10 billion South Stream pipeline is designed to run from Russia under the Black Sea to Bulgaria, where it divides into a southern branch via Greece to Italy and a northern branch via Serbia and Hungary to Austria.

The primary target of pipeline is to supply Turkey and Georgia. As a transit country, Georgia has rights to take 5% of the annual gas flow through the pipeline in lieu of tariff and can purchase a further 0.5 billion cubic metres of gas a year at a discounted price. In longer perspective South Caucasus Pipeline will supply Europe with Caspian natural gas through the planned Nabucco, Turkey-Greece and Greece-Italy pipelines.

The new Russian route would use Turkey as a transit point for exports to the European Union, in effect creating a direct competitor to Turkish-controlled ventures. Given Ankara's interests in joining the EU, however, Turkish officials are reluctant to be seen as creating hurdles for the project. Turkey clearly favours two other gas export ventures in which it is a direct participant, not merely a transit country. The first, the Nabucco Pipeline, would link Turkey and Austria, via Bulgaria, Romania and Hungary, and expand EU access to Persian Gulf and Caspian Basin supplies. Construction of Nabucco line will be completed in 2011. An associated link – the Baku-Tbilisi-Erzurum pipeline – will connect Turkey to Azerbaijan's Shah Deniz gas field.

The Blue Stream project appears to clash with the European Union's stated goal of diversifying its sources of energy. EU officials expressed a desire to reduce their dependency on Russian exports after a pricing dispute between Russia and Ukraine led to disruptions in EU supplies in early 2006. Turkey supports and tries to contribute to the European Union's efforts to diversify its routes and sources of energy, for such a diversification, there exists the Shah Deniz pipeline, not only the Blue Stream project."

The new way would parallel an existing pipeline under the Black Sea, Blue Stream 1, to Turkey, and then connect with the EU via Greece. The projected construction cost is about $5 billion. Blue Stream 1, which is designed to serve the Turkish market, has been plagued by

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[229] *Muzhdat HASANOV, EU's Nabucco Project, Which is "Definitely Not A Dream", Monday , 30 April 2007, USAK's Energy Review Newsletter, http://www.turkishweekly.net/energy.*

[230] Vildan SERİN -Elif YÜKSEL Foreign Direct Investment Flows in Kazakhstan: The Role of Energy Sector

underutilization and bickering over prices. There is a chance that Blue Stream 2 could become operational sooner than the Nabucco route, which has already experienced technical delays.

Whether Turkey enters the EU or not raises a host of interesting strategic and security issues that are likely to affect most actors. Turkey's not gaining admission to the EU, by vote or by choice, is a particularly challenging scenario. This set of dynamics surrounds the impact of energy to alter the strategic landscape around the Turkey. The Baku-Tbilisi-Ceyhan pipeline will begin to disgorge at least one million barrels of oil per day directly into the waiting ships, refineries, and perhaps subsidiary pipelines of the Eastern Mediterranean. The BTC brings several new elements to the Eastern Mediterranean's security. On one hand, the BTC is a real umbilical cord to Azerbaijan and Georgia: two states with lots of internal and external problems that look unlikely to be solved in the near future. What happens in these states is likely to affect the operation of the pipeline and, by extension, the economic health of the region and of Europe.

9. The analysis of Turkish investment incentives
i. Gini coefficient

Two different studies are conducted to evaluate the macroeconomic effects of incentive regulation for investments in Turkey, which are brought to eliminate regional inequality of income distribution. First study is focused on Gini coefficient by measuring income distribution in Turkish counties/cities considering variables including GNP/Capita and Number of Incentive Certificates for 49 different counties/cities. Second study focuses on the effect of energy sector as a part of Turkish incentive system to GNP and evaluates the effect of incentives for the sector. Accordingly both studies the efficiency of incentive system has been determined.

The incentive regulation in Turkey aims to control the income distribution in different cities of Turkey details of which are presented in appendix 4.

One of the measures of inequality of income distribution was developed by Gini (1921) and is called the Gini coefficient. Gini is a Lorenz measure which values between 0 and 1. 1 means highest inequality where 0 represents complete equality. Gini coefficient in general is computed with the following formula. [231]

$$G= \left\{ \frac{1}{n^2} \sum_{i=1}^{n} \sum_{j=1}^{n} (Y_i-Y_j) f(Y_i)f(Y_j) \right\} / 2\mu$$

Y_i is the income of i.th county/city, Y_j is the income of j th city, μ arithmetic mean of income $f(Y_i)$ and (Y_j) are the income levels for the cities.

The data for target counties/cities is between 1994-2001. (No data available after 2001) The computed Gini Values are tabulated and given as a graph.

Years	Gini coefficient
1994	0.1935
1995	0.1910
1996	0.2298
1997	0.2230
1998	0.2141
1999	0.2069
2000	0.2030
2001	0.2014

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[231] Corrado Gini (1921); Measurement of Inequality and Incomes; The Economic Journal 31; p.25.

Gini Value

Gini coefficient being 0.1935 in 1994 reaches its peak value 0.2298 in 1996 The 2001 value is determined as 0,2014. As a result the inequality increases until 1996 and decreases from 1998 which is the positive effect on incentive policy.

ii. Multivariable regression analysis for the impact of energy incentives on Turkish economic growth

The multivariable regression analysis aims to measure the contribution of energy sector incentives to the economy. The dataset used is occurred between 1997-2007 and the econometric software E-views is used to analyse the data. The dependent variable is GNP growth rate, and independent variables are growth of energy sector, gross fixed investments in energy sector, energy sector share of investment incentive certificates.

$$Y = \alpha + \beta_1 X_{1t} + \beta_2 X_{2t} + \beta_3 X_{3t} + u_t$$

Y; Dependent variable, GNP growth rate
   α *is constant*
X_{1t}; Gowth of energy market
X_{2t}; Gross fixed investments by energy sector
X_{3t}; Energy sector subventions.
β's are coefficients indicating the percentage effect of independent variables to GNP.
u_t; error coefficient

The result of regression model is shown below.

Dependent Variable: GNP
Method: Least Squares

GNP= α + β_1*Energy+ β_2*GFIE+ β_3*incentiveE

	Coefficient	Std. Error	t-Statistic	Prob.
α	5.84867	2.608011	-2.24258	0.0661
β_1	1.731636	0.32318	5.35812	0.0017
β_2	-0.00586	0.043871	-1.13349	0.8982
β_3	0.0067	0.142594	1.46986	0.964

		Mean	
R-squared	0.850907	dependent var	3.54
Adjusted R-squared	0.776361	S.D. dependent var	6.248947
S.E. of regression	2.95516	Akaike info criterion	5.294157
Sum squared resid	52.39781	Schwarz criterion	5.415191
Log likelihood	-22.4708	Hannan-Quinn criter.	5.161383
F-statistic	11.41445	Durbin-Watson stat	1.873497
Prob(F-statistic)			

According to the findings of the model, the 1% increase in growth of energy sector will effect GNP growth 1, 73%. Gross fixed investments by energy sector will have no noticeable effect on GNP (-0.00586). 1% change in energy sector subsidies will affect GNP by (no noticeable effect) 0.0067 %.

R-squared value indicates the explanation factor of independent variables to GNP is 0, 85, a considerably important value. T statistics another explanatory figure which are expected around 2, and all the variables have explanatory value.

According to the findings, energy sector and investments in this sector is indispensable for the economic growth. The important factor is the possibility of stable growth in the investments and incentive investments to become fixed investments.

9. Conclusion

Development of energy project, and in particular renewable energy, is enjoying a sustained period of growth that shows no sign of slowing down. The growing support for renewable energy is demonstrated by the numerous incentives that exist to encourage its development, particularly the production tax credit.

The voluntary nature of this mechanism may also entail simpler administrative and regulatory procedures than are needed for mandatory mechanisms. Free market proponents are also likely to welcome leaving green power decisions to the marketplace. If renewable energy becomes comparatively more expensive conventional energy sources may become more attractive to consumers purchasing on the basis of price, as well as those otherwise not willing to pay a significant premium for renewable energy's benefits. Voluntary switching away from green power then means that the other benefits from renewable energy – environmental, national security, and general economic – will no longer be obtained.

The chief strength of the mandatory retail mechanism appears to be the incremental increase in renewable energy it is intended to produce. However, its effectiveness is limited by its application solely to government entities, which are but a small fraction of overall energy consumers. The greatest strength of the voluntary wholesale purchase mechanism may be its administrative ease: voluntary purchases by utilities can largely rely on existing regulatory procedures. A drawback, however, is that voluntary purchases do not reliably ensure any given level of energy project development.

Actually the incentives are not major factors in the investment decisions of companies. But they are mostly a vehicle in promoting new investment in emerging markets. Even though taxation does not appear to be a major factor in companies' investment decisions; it does emerge as a subordinate element in a complex decision situation. Energy companies seem to be more sensitive towards the incentives than companies in conventional sectors.

The State promotion in the counties/cities intends to establishes and develop energy sector investments. But they should be in accordance with international legislation. For the purpose of economic development and welfare, investments are the disposition of capital, in cash or credit facilities, capital goods or transfers of assets designated to the effective production of renewable energy, in accordance with regulation of EU. The positive and negative effects of incentives are discussed in the literature. According to the findings of the article well regulated incentives may lead to more fixed investment by private sector. This will create a positive impact on Turkey's integration to the EU.

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APPENDIX 1 Turkish Energy Summary

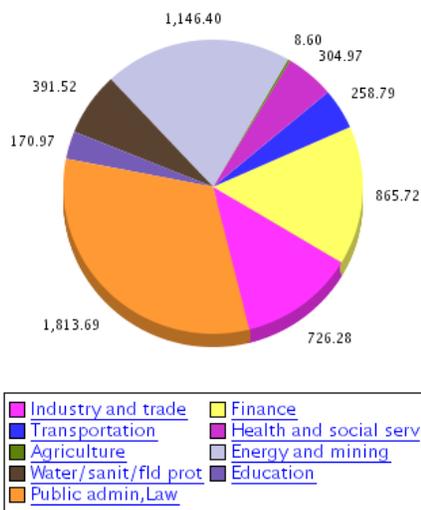| Mtoe	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Production	25.97	26.00	26.57	26.37	26.37	26.54	27.18	28.02	29.13	27.56	26.82	25.17	24.66	23.88	24.21	23.65	26.57
Solid fuels	12.41	11.82	12.12	11.68	12.10	12.08	12.27	13.12	13.94	13.28	13.36	12.95	11.83	11.01	10.60	10.48	13.08
Oil	3.72	4.37	4.29	3.90	3.72	3.53	3.52	3.47	3.24	2.96	2.77	2.53	2.43	2.37	2.26	2.27	2.17
Gas	0.17	0.17	0.16	0.16	0.16	0.15	0.17	0.21	0.47	0.60	0.53	0.26	0.31	0.46	0.57	0.74	0.75
Nuclear																	
Renewables	9.66	9.64	10.00	10.62	10.38	10.78	11.23	11.23	11.48	10.71	10.15	9.42	10.08	10.04	10.78	10.13	10.54
Industrial waste									0.00	0.02	0.02	0.01	0.01	0.01		0.03	0.03
Net Imports	27.35	25.45	27.66	32.05	31.64	36.88	41.05	42.89	43.63	43.51	51.06	46.19	51.11	56.78	58.71	62.14	69.29
Solid fuels	4.21	4.74	4.20	4.11	4.01	4.48	6.18	7.51	7.85	6.69	9.25	5.66	7.88	10.87	11.13	11.72	13.58
Oil	20.52	17.37	19.81	23.90	23.30	26.80	28.03	27.01	27.06	26.58	29.47	26.95	28.62	28.57	29.51	28.39	30.68
Gas	2.68	3.32	3.65	4.08	4.37	5.67	6.84	8.17	8.46	10.06	12.05	13.22	14.34	17.28	18.12	22.13	25.18
Electricity	-0.06	0.02	-0.01	-0.03	-0.05	-0.06	-0.01	0.19	0.26	0.18	0.29	0.36	0.27	0.05	-0.06	-0.10	-0.14
Renewables																	
Derived heat																	
Gross Inland Consumption	52.37	53.27	54.77	57.98	56.83	62.16	67.59	71.20	72.54	71.23	77.62	71.61	75.47	79.40	82.00	85.34	94.66
Solid fuels	16.92	17.68	17.18	15.98	16.00	16.62	18.89	21.08	21.98	20.08	23.35	19.31	19.60	21.51	22.20	22.30	26.59
Oil	23.00	22.44	23.79	27.16	25.98	29.04	30.49	30.35	29.88	29.66	31.19	29.14	30.77	30.07	30.36	30.20	31.67
Gas	2.86	3.49	3.82	4.24	4.52	5.79	6.99	8.34	8.95	10.59	12.64	13.37	14.74	17.72	18.71	22.79	25.97
Nuclear																	
Renewables	9.66	9.64	10.00	10.62	10.38	10.78	11.23	11.23	11.48	10.71	10.15	9.42	10.08	10.04	10.78	10.13	10.54
Other (****)	-0.06	0.02	-0.01	-0.03	-0.05	-0.06	-0.01	0.19	0.26	0.19	0.30	0.37	0.28	0.06	-0.06	-0.07	-0.12
Elec. Generation (TWh)	57.54	60.25	67.34	73.81	78.32	86.25	94.86	103.30	111.02	116.44	124.92	122.73	129.40	140.58	150.70	161.96	176.30
Coal (TWh)	20.18	21.56	24.51	23.70	28.18	27.41	29.72	32.91	35.03	36.22	37.33	37.74	31.43	31.42	33.57	42.20	45.61
Oil (TWh)	3.94	3.29	5.27	5.17	5.55	5.77	6.54	7.16	7.92	8.08	9.31	10.37	10.74	9.20	7.67	5.48	4.34
Gas (TWh)	10.19	12.59	10.88	10.85	13.87	17.22	17.87	23.04	25.50	37.16	47.07	50.23	53.22	64.37	63.12	74.44	81.73
Nuclear (TWh)																	
Renewables (TWh) (*)	23.23	22.80	26.69	34.09	30.72	35.85	40.74	40.19	42.57	34.93	31.15	24.30	33.97	35.56	46.31	39.75	44.52
Other (TWh) (***)									0.01	0.06	0.05	0.10	0.04	0.04	0.03	0.09	0.10
Final Energy Consumption	38.58	38.82	39.66	42.46	40.62	44.72	48.77	50.30	49.85	49.16	55.48	50.23	54.70	58.65	60.40	63.24	69.07
by fuel/product																	
Solid fuels	8.04	8.41	7.69	7.22	5.86	6.67	8.37	9.36	9.35	7.68	10.78	7.36	9.40	11.12	11.50	11.28	13.30
Oil	17.92	17.48	18.18	20.83	19.98	22.44	23.50	22.54	21.25	21.83	23.20	21.26	22.84	22.85	22.86	23.24	23.05
Gas	1.16	1.29	1.71	1.94	2.06	2.64	3.29	3.98	4.18	4.41	5.53	5.94	6.29	7.95	8.60	10.18	12.99
Electricity	3.87	4.04	4.45	4.88	5.07	5.60	6.14	6.85	7.37	7.67	8.24	8.20	8.73	9.49	10.27	11.05	12.15
Renewables	7.60	7.59	7.63	7.60	7.65	7.37	7.47	7.56	7.70	7.57	7.34	7.18	7.02	6.88	6.72	6.63	6.63
Derived heat & industrial waste											0.39	0.30	0.41	0.37	0.45	0.85	0.96
by sector																	
Industry	12.03	12.39	12.39	12.75	12.02	13.23	15.90	17.19	17.72	16.33	21.01	16.70	20.23	22.51	22.74	22.49	24.72
Transport	9.39	9.03	9.24	11.00	10.65	11.93	12.61	11.91	11.16	11.67	12.24	11.72	12.60	12.64	12.86	13.40	14.90
Households	14.56	14.69	15.19	15.36	14.46	15.78	16.26	16.90	16.57	16.61	17.00	16.22	15.81	17.02	17.44	19.31	20.08
Commerce, etc.	2.61	2.70	2.83	3.35	3.49	3.77	4.01	4.30	4.40	4.55	5.23	5.59	6.07	6.48	7.36	8.04	9.36
Non-Energy Uses	2.81	3.09	3.26	3.88	3.31	3.83	4.00	4.28	4.81	3.69	3.52	3.42	3.94	3.67	4.35	4.40	5.74
CO2 Emissions (Mt) (**)	140	147	153	161	159	172	191	204	203	202	224	207	216	231	242	257	
Energy intensity (toe/M€ '00)	259	261	253	248	257	262	267	261	258	262	268	262	260	260	245	236	244
CO2 intensity (tCO2/toe)	2.67	2.75	2.79	2.78	2.80	2.76	2.82	2.86	2.79	2.83	2.88	2.90	2.87	2.91	2.95	3.01	
Import dependency, %	52.10	47.66	50.39	55.19	55.56	59.15	60.62	60.10	60.01	60.85	65.44	64.29	67.25	70.95	70.44	71.93	72.46
Energy per capita (kgoe/cap)	933	930	938	974	937	1006	1074	1111	1112	1074	1152	1047	1089	1131	1152	1184	1297
CO2 per capita (kg/cap)	2488	2559	2619	2703	2624	2782	3031	3180	3108	3041	3321	3033	3123	3289	3400	3564	

Source: Eurostat May 2008   (*) not including pumping   (**) Source: European Environment Agency,December 2007; Including Bunkers   (***) Pumped Storage Plants and Other Power Stations   (****) Electrical Energy and Industrial Waste

APPENDIX 2 World Bank

Loans/Credits/Grants Summary In US$ Equivalent				
Status	**IBRD**	**IDA Credits**	**IDA Grants**	**Total**
Original Principal	28,467,456,000.00	178,500,000.00	0.00	28,645,956,000.00
Cancellations	3,743,450,288.92	1,091,048.99	0.00	3,744,541,337.91
Disbursed	20,152,810,423.21	196,148,396.88	0.00	20,348,958,820.09
Undisbursed	4,386,422,852.81	0.00	0.00	4,386,422,852.81
Repaid	12,749,239,552.64	139,665,182.82	0.00	12,888,904,735.46
Due	7,561,752,407.89	56,483,214.06	0.00	7,618,235,621.95
Exchange Adjustment	214,766,123.09	0.00	0.00	214,766,123.09
Borrower Obligation	7,776,518,530.98	56,483,214.06	0.00	7,833,001,745.04

Lending Amounts by Year

APPENDIX 3: European Investment Bank – Energy Finance Loans

Name	Signature date	Signed Amount
ENERJISA HYDROPOWER	11/07/2008	135,000,000
ENVIRONMENT & ENERGY FRAMEWORK LOAN	08/05/2008	200,000,000
TEDAS ELECTRICITY DISTRIBUTION	10/08/2006	100,000,000
SISECAM GLASS MANUFACTURING	08/11/2005	18,000,000
SILIVRI UNDERGROUND GAS STORAGE	28/02/2002	90,000,000
BOTAS I GAS INFRASTRUCTURE	14/10/1996	80,000,000
TEAS-AEGEAN ANTI-AIR POLLUTION	14/06/1996	40,000,000
TEAS - TURKEY-SYRIA INTERCONNECTION	16/11/1995	13,500,000
YENIKOY-IZMIR-ALIAGA TRANSMISSION LINE	29/06/1987	17,000,000
OZLUCE	08/12/1986	18,684,414
CNC RESEAU DE TRANSMISSION	19/10/1981	14,000,000
KARAKAYA II	19/10/1981	25,000,000
CNC RESEAU DE TRANSMISSION	19/10/1981	10,000,000
KARAKAYA	14/07/1980	60,000,000
ELBISTAN ADDITIONNEL	26/02/1980	75,000,000
KEBAN II	05/07/1979	36,000,000
ELBISTAN II	29/01/1975	19,000,000
ELBISTAN	30/12/1974	58,000,000
KEBAN B - COMPLEMENTAIRE	11/05/1971	10,000,000
GOKCEKAYA - SEYITOMER - IZMIR	29/01/1969	7,600,000
GOKCEKAYA	14/06/1967	7,300,000
KEBAN A	28/07/1966	30,000,000

Name		Signature date Signed Amount
KOVADA II		25/05/1965 5,000,000

APPENDIX 4 Table of Gini Coefficient on Investment Incentives in Turkish Counties/Cities

Cities subject to Incentives	GNP/Capita		Socio-economic development	Place in the list of socio-economic development (out of 81 cities -2003)	Number of investment incentive certificates (1980-2002)
	(USD)	Growth rate (%)			
1-Adıyaman	918	41,7	-0,78	65	356
2-Afyon	1.263	41,1	-0,27	44	384
3-Ağrı	568	33,0	-1,28	80	124
4-Aksaray	966	30,5	-0,45	56	114
5-Amasya	1.439	35,4	-0,18	39	275
6-Ardahan	842	53,5	-1,07	74	15
7-Bartın	1.061	51,1	-0,42	55	109
8-Batman	1.216	50,5	-0,9	70	320
9-Bayburt	1.017	49,9	-0,8	66	30
10-Bingöl	795	43,9	-1,12	76	68
11-Bitlis	646	41,1	-1,16	79	223
12-Çankırı	1.136	36,7	-0,52	59	289
13-Diyarbakır	1.313	49,8	-0,67	63	825
14-Düzce	1.142	34,5	-0,28	45	58
15-Erzincan	1.158	46,0	-0,49	58	151
16-Erzurum	1.061	41,0	-0,53	60	377
17-Giresun	1.443	48,5	-0,37	50	157
18-Gümüşhane	1.075	39,1	-0,92	71	85
19-Hakkari	836	43,7	-1,14	77	35
20-Iğdır	855	41,2	-0,89	69	45
21-Kars	886	50,7	-0,82	67	283
22-Kırşehir	1.488	48,9	-0,23	42	121
23-Malatya	1.417	46,6	-0,23	41	625
24-Mardin	983	64,8	-0,99	72	580
25-Muş	578	53,8	-1,44	81	114
26-Ordu	1.064	49,3	-0,64	62	294
27-Osmaniye	1.157	43,1	-0,33	47	44
28-Siirt	1.111	53,2	-1,01	73	592
29-Sinop	1.459	49,8	-0,48	57	202
30-Sivas	1.399	54,1	-0,40	53	353
31-Şanlıurfa	1.008	49,4	-0,83	68	467
32-Şırnak	638	48,4	-1,14	78	88
33-Tokat	1.370	49,3	-0,59	61	537
34-Uşak	1.436	35,3	-0,17	30	361
35-Van	859	48,3	-1,09	75	311
36-Yozgat	852	31,4	-0,72	64	343

37-Tunceli	1.584	53,5	-0,40	52	28
38-Kastamonu	1.781	42,7	-0,38	51	263
39-Niğde	1.781	37,2	-0,36	49	185
40-Kilis	1.817	51,2	-0,41	54	24
41-K.Maraş	1.584	58,3	-0,35	48	990
42-Elazığ	1.704	45,9	-0,10	36	427
43-Çorum	1.654	40,1	-0,33	46	850
44- Artvin	2.137	46,4	-0,26	43	76
45-Kütahya	1.805	54,3	-0,21	40	333
46-Trabzon	1.506	50,7	-0,19	38	356
47-Rize	1.897	49,9	-0,18	37	196
48-Nevşehir	2.117	40,4	-0,07	34	223
49-Karaman	2.012	38,7	-0,10	35	214

4.5 Capital Markets

THE EFFECT OF FOREIGN OWNERSHIP ON THE ASSOCIATION OF DIVIDEND CHANGES AND FUTURE EARNINGS[*]

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Abstract

This paper examines the effect of foreign ownership on the association between dividend changes and future earnings in Korean firms. Reasoning from the hypothesis that dividend changes convey new information about a firm's future profitability, a dividend increase is seen as a positive signal about the firm's future earnings and profitability. However, the results from prior studies are controversial. Some papers have suggested that dividend changes would mean different things depending on a firm's dividend policy and the motives behind its managers' decision to pay dividends. Foreign investors owned about 38% of the stock in the Korean market in 2007. As the percentage of foreign ownership had grown, many researchers have analyzed the effect of this ownership. To this point no one has definitively answered the question of what impact foreign ownership has on Korean firms has not been established, but most agree that foreign investors do have significant effect on Korean market.

We have predicted that foreign ownership has an important role in the determination of a firm's dividend policy and also affects the relationship between dividend changes and future profitability. We employ a modified model to examine how the relationship between dividend changes and future earnings varies with the presence of foreign ownership. Our results suggest that the dividend increases in firms with higher level of foreign ownership have a positive correlation with earnings increases in the year following the dividend change year. This finding suggests that foreign investors play a positive role in the Korean market and, in particular, that foreign investors in Korea play an important role in monitoring the dividend decisions made by a firm's management.

Key words: Dividend changes; Future earnings; Predictability; Foreign ownership

1. Introduction

This paper investigates the effects of foreign investors on the relationship between dividend changes and the predictability of future earnings. Because foreign investors' ownership in the Korean market has increased substantially since 1992, many researchers have analyzed the effects of foreign ownership on dividend changes. Most papers, however, have focused on the association between foreign investors and the level of the dividend. The purpose of this paper is twofold. The first one is to test whether dividend changes is useful variable to predict future earnings using modified model following Grullon et al. (2005). The second is to investigate the effect of foreign investors on the predictability of dividend change.

Since Lintner (1956) provides important theoretical foundation for the information content of dividends hypothesis, Miller and Modigliani (1961) suggest that dividend changes convey new information about the firms' future profitability. According to dividend signaling theories, dividend increases would present a permanent upward revaluation of the cash flows of firms and a commitment to maintain a higher level of dividends (e.g., Bhattacharaya, 1979; Miller and Rock, 1985; John and Williams, 1985). Based on this prediction, the dividend increase is recognized as a positive signal about the firms' future earnings and profitability. However, the related studies on the relationship between the dividend changes and future earnings suggest mixed results depending on applied assumptions (Watts, 1973; DeAngelo et al., 1996; Benartzi et al., 1997; Nissim and Ziv, 2001; Grullon et al., 2005; Ali and Urcan, 2006). Specifically, Grullon et al. (2005) point out that there is no significant relation between dividend increase and unexpected future earnings changes when they reflect the feature

1324

of the mean reversion phenomenon and autocorrelation of earnings which are non-linear. In this paper, we test the relationship between dividend changes and the predictability of future earnings using Grullon et al. (2005)'s method

The characteristic of dividend is determined by the dividend policy, and further dividend policy has a close relationship with firm's investment decision as well as capital sourcing. Lintner (1956) argued that managers unwilling to change payout ratio without any important change on the firm's future performance. Won and Kim (1992) report that managers are more likely to concern about the internal factors such as net income, divisible surplus, predicted future performance, and the shareholders' preference for dividend policy. More importantly, several studies suggest that the foreign investors have significant effect on Korean market. Park (2004) reports that foreign investors' participation in firms generally pushes up the dividend payments while pulling down investments made in facilities no matter which industry a company is in. Sul and Kim (2006) show that those companies whose majority shareholders are foreign investors tend to pay higher dividends than others whose majority shareholders are domestic investors. In contrast to negative effect of foreign investor, there are empirical studies claiming positive impact of foreign investor in Korean market. Ahn, Shin, and Chang (2005) suggest that foreign investors prefer firms with lower information asymmetry. The study also shows that foreign investors can effectively monitor the management of firm in lessening information asymmetry. Similarly, Park and Lee (2006) suggest that foreign investors' participation in investment of domestic firms can help the firm make more efficient management decision by improving their corporate governance. Thus, Park and

Lee claim that it is problematic to generalize the negative role of foreign investors in Korean market.

Based on this argument, we predict that if foreign investors play an effective monitoring role in dividend policy, dividend change for firms with higher level of foreign investors is a good indicator in predicting future earnings than for firms with lower level of foreign investors. However, if foreign investors play a negative role in dividend decision process, predictability of dividend decreases. We test this prediction through the modified partial adjustment model from the Grullon et al. (2005) to consider non-linearity behaviors of earnings. The empirical results suggest that the dividend increases in firms with higher level of foreign investors have positive relationship with future earnings increases for next one year relative to the dividend change year. Specifically, the predictability of dividends for the low dividend policy of 1992-1996 is significantly positive while the predictability of dividend for the later period of 1999-2003 is insignificant. The empirical results from the test of effect of foreign ownership suggest that after the policy change in year 1998, foreign investors have a positive effect on the relationship between dividend increases and future earnings increases. This result is identical even after controlling for the endogeneity problem by Heckman two-stage analysis. This finding implies that foreign investors in Korea play an important role in monitoring the dividend decision management of a firm.

The rest of paper is organized as follows. Section 2 provides a literature review of the information content of dividend and foreign investor. Section 3 develops hypotheses. Section 4 presents research design and data description. Section 5 provides empirical

results about the relationship between dividend changes and future earnings regarding foreign ownership. Section 6 conducts additional tests, and Section 7 concludes.

2. Literature review

2.1 The information content of dividends

Lintner (1956) suggested that firms increase their dividends when management puts trust on the projection that earnings have consistently increased. Miller and Modigliani (1961) proposed an "information content of dividend" hypothesis that held dividend changes convey new information about a firm's future profitability. John and Williams (1985) suggested that maintaining the level of cash dividends will prevent the devaluation of a firm. Miller and Rock (1985) assumed that managers have internal information about the firm and suggested that managers use dividends as a signal to inform investors about a firm's profitability. What dividend signaling theories offers is theoretic frameworks implying a dividend increase can be an indicator for not only a permanent upward revaluation of the cash flow of a firm but also a firm's commitment to maintain a higher level of dividends. This interpretation allows us to hypothesize that a dividend increase is a positive signal about the firm's future earnings and profitability.

However, there has not been sufficient empirical evidence supporting these signaling theories. In other words, there are little studies proving a positive relationship between dividends and increase in earnings. One of the earliest studies investigating the relationship between dividend changes and future earnings (Watts, 1973), Watts found a positive relationship between the two variables. Yet, the relationship was not statistically

significant. As a result, he concluded that the information content of dividends is not economically meaningful. Another study (DeAngelo et al., 1996) was also not able to support the hypothesis that dividend changes can provide information about future earnings. In concluding the study, the researchers interpreted these results as indicating that management tends to increase dividends based on overly optimistic projection about future earnings. This interpretation, thus, implies that there is little reliable information content to be gleaned from dividend changes. Similarly, Benartzi et al. (1997) found that firms that increase dividends experienced significant earnings increases in the year before and the year of the dividend increase but not in subsequent years.

Nissim and Ziv (2001) used a different model of earnings expectations to investigate the relationship between dividend changes and future profitability. Upon introducing mean reversion in the earnings expectation model and using a more appropriate deflator, they find that dividend increases and unexpected future earnings changes are positively correlated. In the study, Nissim and Ziv were able to obtain information about ,the level of profitability in subsequent years by looking into dividend changes, which is hardly available from market and accounting data. On the other hand, a follow-up study (Grullon et al. 2005) concerns about finding of Nissim and Ziv (2001) by questioning that the linear specification of earnings expectation model used by Nissim and Ziv (2001) was not correct. They brought attention to the point that it is problematic to presume the mean reversion of earnings as a linear processes, which is not. This is because treating linearity when the true functional form is nonlinear would result in the same consequences as overlooking relevant independent variables. For this reason, Grullon and his colleagues claimed what Nissm and Ziv found in their study might not be acceptable. In the study

(Grullon et al. 2005), the authors addressed the mean reversion and auto-correlation issue by using the modified partial adjustment model proposed by Fama and French (2000). Controlling for the nonlinear patterns in the earnings, the study results (Grullon et al., 2005) indicate that the relationship between dividend changes and future earning does not appear statistically significant. Being consistent with the signaling theory of dividends, findings of Ali and Urcan's study (2006) highlight a significantly positive relationship between dividend increases and future earning changes in low dividend premium years. In the high dividend premium years, however, such a relationship does not appear between the two variables. Ali and Urcan interpret the findings that dividend increases in high dividend premium years can possibly occur because managers positively take investors' demands for dividends into account. Won and Kim (1992) showed that managers are mainly concerned about the internal factors, including net income, divisible surplus, predicted future performance, and the shareholders' preference for dividend, when determining dividend policy.

In sum, these findings indicate that the correlation between dividend changes and unexpected earnings would vary depending on market or management constraint for dividend changes.

2.2 Foreign investors in Korea

Foreign investors have been permitted to invest in Korean stock market since 1992, and since that time foreign investors' ownership of stocks has increased sharply, from 4.9% in 1992 to 38% in 2007. As the holdings of foreign investors have grown, researchers have becoming increasingly interested in the impact of foreign investors'

ownership. Besides reporting a crucial influence of foreign investors on the dividend policy, Park (2004) demonstrated a positive relationship of foreign investors' ownership with the increase of dividend payments and the decrease of the investment for facilities. Sul and Kim (2006) examined the effects of foreign shares on the increases in a firm's dividends. Findings of the study indicate that foreign investors who have more than 5% of ownership can exercise their influence on the company's dividend increase. The study also highlights that companies of foreign majority shareholders usually pay higher dividends than companies of domestic majority shareholders.

On the other hand, Ahn, Shin, and Chang (2005) found that foreign investors acquire higher ownership for firms that are covered more closely by analysts and that have lower forecast errors and discretionary accruals. They suggested that foreign investors prefer firms with a lower information asymmetry and that these investors serve as an effective external monitoring system that has the result of lessening information asymmetry. Park and Lee (2006) found that the investment of foreign investors for domestic firms tend to improve corporate governance and consequently, to help the management make more efficient decisions. As shown in these studies, the foreign investors' roles in Korea market are controversial and this leaves rooms for further research.

3. Hypotheses

To investigate the validity of the information content of dividend hypotheses, Park (2004) tested the relationship between dividend changes and profitability in the fiscal years following those changes with Korean firm samples. He found that when employing the method of Nissim and Ziv (2001), dividend changes can predict earnings for the

following year. By contrast, Grullon et al. (2005) found that the correlation between dividend changes and future earnings disappears after controlling for nonlinear patterns in the behavior of earnings.

In this study we revisit the dividend signaling issue by using a model of unexpected earnings that explicitly controls for nonlinear patterns in the behavior of earnings. We check whether the correlation between dividend changes and future profitability of Korean firms stays positive under the method of Grullon et al. (2005). This leads to our first hypothesis:

H1. Dividend changes have a positive relationship with future earnings changes.

Ali and Urcan (2006) found that there exists a significantly positive correlation between dividend increases and changes in unexpected future earnings in low dividend premium periods. In the high dividend premium periods, however, there is no significant correlation between dividend increases and changes in unexpected future earnings. Moreover, they assume that dividend increases in high dividend premium periods are the consequence of manager's concern about the investors' demand for dividends. This, in turns, indicates that the relationship between dividend changes and future earnings will depend in part on managers' motives in determining dividend policy.

Previous researches into the determinants of dividend policy have found that managers take into account various internal constraints, such as earnings and shareholders' preferences about dividends, when they decide the firm's dividend policy. Reasoning from the dividend policy researches and the work of Ali and Urcan (2006), we predict

that ownership structure will have an effect on the relationship between dividend changes and future profitability. This prediction is based on the assumption that the ownership structure is an important factor in determining dividend policy,.

Over the past 15 years foreign investors' presence in the Korean stock market has increased considerably, to the point where foreign investors owned about 38% of the Korean market in 2007. As these foreign investors' holdings have grown, many researchers have analyzed the effects of such foreign ownership. Park (2004) presented that having foreign investors' ownership in firms is likely to increase dividend payments while decreasing the amount of investments for facilities. Sul and Kim (2006) found that the influence of the foreign investors in determining a firm's dividends increases as the percentage of foreign ownership increases. The study also showed that having more foreign than domestic shareholders are likely to indicate higher payment of dividends.

By contrast, Ahn, Shin, and Chang (2005) suggested that foreign investors tend to be inclining toward firms with lower information asymmetry and that these foreign investors can exert their influence in lessening information asymmetry. Park and Lee (2006) propose that foreign investors take an important part in Korean market by making investments in domestic firms. Consequently, this can have positive impacts on corporate governance and therefore more efficient management decisions can be made. In making a conclusion, Park and Lee (2006) point out that due to its complex nature it is not a simple task to generalize the overall impact of foreign investor, although there have been concerns about their negative role in Korea.

To sum up, it seems evident that there is a great agreement on a significant impact of foreign investors in Korean market which is shared by both a positive and a negative

point of view toward their roles. However, there are little theoretical and empirical studies on the foreign investors' impact on Korean market. Given these circumstances, we predict that foreign ownership plays an important role in deciding a firm's dividend policy and, in particular, that it will have an important effect on the relationship between dividend changes and future profitability. This leads to the following hypothesis:

H2. The association between dividend changes and future earnings changes is affected by foreign ownership.

4. Research design and data description

4.1 The relation between dividend changes and future earnings changes

Our first step is to reexamine the relationship between dividend changes and future profitability in the Korean market. We use both the method of Nissim and Ziv (2001) and the method of Grullon et al. (2005). Our basic strategy will be to test the 'information content of dividend' hypothesis by using a regression analysis with dividend changes $(R\triangle DIV_0)$ as an independent variable and future earnings changes as a dependent variable.

Nissim and Ziv (2001) apply the following equation:

$$(E\tau - E\tau_{-1})/B_{-1} = \alpha 0 + \alpha 1 DPC \times R\triangle DIV_0 + \alpha 2 DNC \times R\triangle DIV_0 \qquad (1)$$

$$+ \alpha 3 ROE\tau\text{-}1 + \alpha 4 (E_0 - E_{-1})/B_{-1} + \varepsilon\tau$$

where,

$E\tau$ = earnings before extra ordinary items in year τ, relative to the dividend event year 0

B_{-1} = the book value of equity at the beginning of the dividend event year

$(E\tau - E\tau_{-1})/B_{-1}$ = earnings change from year τ_{-1} to year τ deflated by the book value of the firm's equity at the beginning of the dividend event year.

$R\triangle DIV_0$ = the rate of change in the cash dividend per share relative to the previous year

$$R\triangle DIV_0 = \frac{(DIV_0 - DIV_{-1})}{DIV_{-1}}$$

DIV_0 = dividend at year 0, and DIV_{-1} = dividend at the year before.

DPC (DNC) = 1 when the dividend increases (decreases) and 0 otherwise

$ROE\tau_{-1}$ = net income in year 0 scaled by the book value of the equity at the year 0

Nissim and Ziv (2001) included $ROE\tau_{-1}$ as an explanatory variable, accounting for the tendency of ROE to revert to the mean. Freeman, Ohlson, and Penman (1982), and Fama and French (2000) found that the return on equity, which is positively correlated with current earnings, has a negative relationship with future earnings. This inverse relationship is due to the fact that ROE tends to revert to the mean: a high ROE implies an expected decrease in earnings, and vice versa. Nissim and Ziv also included $(E_0 - E_{-1})/B_{-1}$ as an additional control variable. Dividend changes are highly correlated with contemporaneous earnings changes, so the positive correlation between dividend changes and earnings changes in the two subsequent years may be due to autocorrelation in the earnings change series. Thus Nissim and Ziv include $(E_0 - E_{-1})/B_{-1}$ in order to examine whether dividend changes contain information on future earnings changes, in addition to what can be predicted directly from the earnings change in the dividend change year. We

run the regression models annually and analyze the significance of the means of the coefficients using Fama-MacBeth statistics.

Grullon et al.(2005) use the equation:

$$(E\tau - E\tau_{-1})/B_{-1} = \alpha 0 + \alpha 1 DPC \times R\triangle DIV_0 + \alpha 2 DNC \times R\triangle DIV_0$$

$$+ (\gamma 1 + \gamma 2 NDFED + \gamma 3 NDFED \times DFE + \gamma 4 PDFED \times DFE) \times DFE$$

$$+ (\lambda 1 + \lambda 2 NCED + \lambda 3 NCED \times CE + \lambda 4 PCED \times CE) \times CE + \varepsilon\tau, \text{ (2)}$$

where

$DFE = ROE_0 - E[ROE_0]$,

ROE_0 = return on equity in year 0

$E[ROE_0]$ is the fitted value calculated from the cross-sectional regression of ROE_0 on the logarithm of total assets in year -1, the logarithm of the ratio of market equity to book equity in year -1, and ROE_{-1}.

NDFED (PDFED) = 1 when DFE is negative (positive) and 0 otherwise

$CE = (E_0 - E_{-1})/B_{-1}$.

NCED (PCED) = 1 when CE is negative (positive) and 0 otherwise.

We use a modified partial adjustment model (the Grullon et al.(2005) method) to control for the nonlinear relationship between future earnings changes and past earnings levels and changes. As discussed in Fama and French (2000), the dummy variables and the squared terms are expected to capture the nonlinearity of the reversion to the mean and the earnings autocorrelation. The coefficient on $\gamma 1$ expresses the reversion to the mean when profitability is greater than expected, while $\gamma 2$ expresses the reversion to the mean when the profitability is less than expected. When profitability is much greater or

much less than expected, we use quadratic terms to express the reversion to the mean: $\gamma 3$ for a large negative deviation, and $\gamma 4$ for a large positive deviation of profitability. Similarly, $\lambda 1$, $\lambda 2$, $\lambda 3$, and $\lambda 4$ are used to express the non-linearity in the autocorrelation of changes in profitability.

4.2 Dividend changes and future earnings changes conditional on foreign ownership

We examine the correlation between dividend increases and unexpected changes in future earnings while varying the level of foreign ownership. In particular, we analyze the following model:

$$(E\tau - E\tau_{-1})/B_{-1} = \alpha 0 + \alpha 1 DPC \times R\triangle DIV_0 + \alpha 2 DNC \times R\triangle DIV_0$$

$$+ \alpha 3 FOR + \alpha 4 DPC \times R\triangle DIV_0 \times FOR + \alpha 5 DNC \times R\triangle DIV_0 \times FOR$$

$$+ (\gamma 1 + \gamma 2 NDFED + \gamma 3 NDFED \times DFE + \gamma 4 PDFED \times DFE) \times DFE$$

$$+ (\lambda 1 + \lambda 2 NCED + \lambda 3 NCED \times CE + \lambda 4 PCED \times CE) \times CE + \varepsilon\tau, \quad (3)$$

where FOR is the percentage of a firm's total stock value that is held by foreign investors. The purpose of this variable is to capture the impact of foreign ownership on firms. The term $DPC \times R\triangle DIV0$ expresses the effect of the signaling role played by dividend increases in firms without foreign ownership. The decisions on dividend policy by managers in firms without foreign investors are clearly not affected by foreign investors, while in firms with foreign ownership, the term $DPC \times R\triangle DIV0 \times FOR$ captures the effect of the signaling role of dividend increases. If foreign investors press managers to increase dividend without improvement in firm's performance and managers have to

meet the demand, the coefficient for DPC $\times$ R$\triangle$DIV0$\times$ FOR is negative. On the other hand, if foreign investors behave in a positive way, for example, by monitoring the managers and improving the firm's performance, the coefficient would be positive.

4.3 Sample selection and descriptive statistics

The sample selection procedure for this study was similar to that of Park (2004). The sample included firms in the KSE (Korea Stock Exchange) and KOSDAQ (Korea Securities Dealers Automated Quotation) from the years 1992 through 2003. Financial statement data were collected from KIS-Value, and the stock market data were obtained from the KSRI (Korea Stock Research Institute) Stock Database. We restrict observations to those firms that satisfied three conditions: 1) the dividend change was observable, 2) the firm was not a financial firm, and 3) the dividend change was less than 500%.

<INSERT TABLE1 HERE >

Table 1 shows the annual number of dividend changes for the firms in our sample. The total number of observations of a dividend increase, a dividend decrease, and no dividend change during the sample period was 1,834, 1,839, and 624, respectively. In 1997 and 1998, the total number of dividend increases and dividend decreases was dramatically different from other years. This aberration was caused by the Asian financial crisis, which had a huge impact on Korean economy. Because including data from that period could distort the result of the analysis, the data for these two years were excluded from the sample.

<INSERT TABLE2 HERE >

Table 2 provides descriptive statistics for the three dividend change groups (increase, decrease, and no change). Panel A shows the average amount of dividend change for the dividend increase group, which is 59.2%. Panel C shows the average amount of dividend change for the dividend decrease group, which is -31.1%. For the entire sample the average amount of dividend change is 13.2%. The ROE for each group increases in proportion to the R△DIV of the group, from 0.067 to 0.107. The percentage of ownership by foreign investors (FOR) also increases as R△DIV increases, from 5.5% to 8.01%.

<INSERT TABLE3 HERE >

Table 3 contains Spearman correlation coefficients for dividend increases (below the diagonal) and for dividend decreases (above the diagonal). Foreign ownership is positively correlated with future earnings change. Foreign ownership is also positively and significantly correlated with dividend changes. ROE and future earnings change have a significant negative relationship, which reflects the reversion to the mean discussed above.

5. Results

5.1 Dividend changes and Future earnings changes

Table 4 shows the results of the regression analysis based on equation (1). To alleviate the bias in the regression test statistics due to the cross-sectional correlation in the error term, we use the Fama-MacBeth (1973) procedure to estimate the regression coefficients. First we estimate the cross-sectional regression coefficients for each year

using all the observations in that year. Then we calculate the time-series means and the corresponding t-statistics of the cross-sectional regression coefficients.

<INSERT TABLE4 HERE >

Previous studies have found that the relationship between dividend changes and future earning changes is not symmetric between dividend increases and dividend decreases (DeAngelo and DeAngelo, 1990; Benartzi et al., 1997; Nissim and Ziv, 2001). We thus allow the coefficients for dividend increase and dividend decrease to be different. DPC is a dummy variable that equals one in the case of dividend increases and zero otherwise, while DNC is a dummy variable that equals one whenever the dividend increases and zero otherwise. Both are multiplied by $R\triangle DIV_0$, with $\alpha 1$ the regression coefficient for dividend increases and $\alpha 2$ the regression coefficient for dividend decreases.

Table 4 displays the regression results from equation (1). For $\tau=1$, the coefficient of dividend increase is positive and significant at 10% level, while the coefficient of dividend decrease is positive but not statistically significant. The coefficient for ROE is significant and negative, demonstrating a pattern of reversion to the mean for ROE. For $\tau=2$ the coefficient of dividend decrease is positive and significant at 5% level, implying that a dividend decrease in year 0 is positively correlated with a decrease in future earnings.

Grullon et al. (2005) noted that results from prior studies were based on the assumption that the rate of reversion to the mean and the level of autocorrelation are uniform across all observations. Therefore, to examine the relationship between dividend changes and future earnings changes we use the method of Grullon et al. (2005) which estimates regression through the modified partial adjustment model proposed by Fama

and French (2000). This method allows for nonlinearity in the reversion to the mean and in the autocorrelation process of earnings.

Table 5 shows the regression results from the estimating equation (2). For $\tau=1$, the coefficient of dividend increase is positive and significant at 10% level, while the coefficient of dividend decrease is negative but is not statistically significant. This result is different from the result of Grullon et al. (2005). It seems likely that the difference is due to the low dividend policy that predominated among Korean firms in the period 1992–1996.[232]

<INSERT TABLE5 HERE >

<INSERT TABLE6 HERE >

In Table 6 we test this inference by separating the sample period of 1992-1996 from the later period 1999–2003. The coefficient of dividend increase for the earlier period is positive and significant, while the coefficient of dividend increase for the later period is positive but not significant. This result may be caused by the difference in dividend policy between the two periods.

5.2 Dividend changes and future earnings changes conditional on foreign ownership

In this section, we examine the relationship between dividend increases and unexpected changes in future earnings as the level of foreign ownership varies. The regression estimates for equation (3) are provided in Table 7. Neither the coefficients of

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[232] In the early period 1992-1996 firms had a low dividend policy. The average dividend rate during the preceding period was 9.3%, while the average dividend rate during the following period was 17%.

dividend changes nor the interaction term for dividend changes and foreign ownership are significant for $\tau=1$ and $\tau=2$. The only statistically significant term is the coefficient of foreign ownership, which is positive. This result could be interpreted as implying that foreign ownership does not have a significant effect on the relationship between dividend changes and future earnings changes.

However, there was an important policy change in 1998. Up to that point foreign investors could not acquire more than 50% of a Korean firm's outstanding shares, but the rule was repealed in 1998. The average amount of foreign ownership among the 25% of firms with the greatest percentage of foreign ownership was 15.6% during the period 1992–1996 but grew to 25.3% in 1999–2003, the four years following the repeal of the rule. Therefore it is possible that the effect of foreign ownership on Korean firms was different during those two periods.

<INSERT TABLE7 HERE>

<INSERT TABLE8 HERE>

In Table 8, we test for an effect of this change in policy by comparing the coefficients calculated separately for these two sample periods, 1992–1996 and 1999–2003. For the earlier period the coefficient on the interaction term for dividend changes versus foreign ownership is negative and not significant, but for the later period the interaction term is positive and significant at 5% level. After the policy change, foreign ownership had a positive effect on the relationship between dividend increases and future earnings increase for the year following the dividend increase year.

5.3 Endogeneity problem

5.3.1 Heckman two-stage analysis

If one examines only the main independent variable, the interaction term between dividend increase and foreign ownership, it is not possible to eliminate selection bias as a potential explanation for the result. That is, if foreign investors choose to invest in performing companies that perform well and if those companies would exhibit a positive correlation between dividend changes and changes in future earnings even without the presence of the foreign investors, the result from the analysis would be same; in this situation the interpretation that foreign investors have a positive effect on the relationship between dividend changes and future earnings changes would be wrong. To address this endogeneity issue, we employ Heckmans' two-stage approach. Because there is no well-accepted evidence to guide the selection of explanatory variables for the probit foreign ownership model, we choose to include six explanatory variables that were identified by Kim et al (2008).

First, we perform a regression on the following equation using data from our population of Korean firms:

$$FH = \alpha_0 \, LEVERAGE + \alpha_1 MTB + \alpha_2 CFO + \alpha_3 SIZE + \alpha_4 SALES + \alpha_5 ROE + \varepsilon \qquad (4)$$

Where,

FH =1 when foreign investors are participated in the firm, 0 otherwise

MTB = market-to-book ratio

CFO = cash flow from operations / book value of equity

SIZE = total asset / book value of equity

SALES = total sales / book value of equity

All other variables are as defined in previous tables.

In the second stage, we incorporate the inverse Mill's ratio and year dummy variables into equation (3) and re-estimate it. The results, displayed in Table 9, are similar to those in Table 7. The coefficient of the interaction term between dividend increase and foreign ownership is still positive and significant after controlling for the endogeneity problem. This suggests that foreign ownership does have an effect on the relationship between dividend changes and future earnings changes.

<INSERT TABLE9 HERE>

5.3.2 The effect of foreign ownership on the likelihood and magnitude of dividend changes

In this section we examine how foreign ownership affects dividend policy, specifically, how it affects the likelihood and the amount of dividend changes. We use logistic models, given in equation (6), to estimate the effect of foreign ownership on the likelihood of dividend changes, and we use the Fama-MacBeth (1973) approach to estimate the effect of foreign ownership on the magnitude of dividend changes, as shown in equation (7). In the Fama-MacBeth approach, one first computes cross-sectional regression coefficients for each year using all of the observations from that year. After that, one calculates the time-series means and the standard deviations of the coefficients.

Panel A in Table 10 shows the results of the regression calculation from the estimating equation (6). The coefficient of foreign ownership is positive when the dependent variable is DPC, suggesting that firms with a larger percentage of foreign ownership are more likely to increase dividends. Panel B displays the results on the effect of foreign ownership on the magnitude of dividend increases. The coefficient of foreign

ownership is positive when the dependent variable is DPC× R△DIV0, suggesting that firms with a larger percentage of foreign ownership have a higher relative amount of dividend increases than firms with less foreign ownership.

    <INSERT TABLE10 HERE>

6. Additional test

6.1 Institutional ownership

We examined the effects of institutional ownership by replacing foreign ownership with institutional ownership and doing a similar analysis. Institutional ownership refers to ownership by financial firms, security corporations, and insurance companies. For the period 1999-2003, the regression analysis for the estimating equation (3) with institutional ownership results in a positive but not significant coefficient.

6.2 Sample selection

The sample used in this study consisted of firms in the KSE (Korea Stock Exchange) and the KOSDAQ (Korea Securities Dealers Automated Quotation). The intention was to use data from all Korean firms as the data set for this study. However, it has been suggested that firms in the KSE and in the KOSDAQ may differ in certain characteristics. KOSDAQ firms are perceived as less predictable, for example, and the regulations for listing are different for KSE firms versus KOSDAQ firms. Therefore we retested equation (3) using only firms in KSE for the period after the 1998 policy change.

Table 11 reports the regression results from the estimating equation (3) using only the firms in the KSE. The coefficient on the interaction term of dividend increase versus

foreign ownership is positive and more significant than the previous result shown in Table 8. The result suggests that the positive relation between dividend changes and future earnings changes is stronger in KSE firms with high levels of foreign ownership. Furthermore, we checked this result with the Heckman two-stage analysis, and the results from that analysis also support this conclusion.

<INSERT TABLE11 HERE>

6.3 Alternative variables

We test profitability in the future as a dependent variable. In untabulated results, we find that the effect of foreign investors in the later period, 1999-2003, is still significant. This result suggests that foreign investors play a positive role in determining dividend policy. We further examine the effect of foreign investor on the relationship between the dividend changes and future earnings by using alternative variables: total dividend (cash + stock dividend) change and dividend rate (cash dividend divided by total assets). The results are identical to the previous results.

7. Conclusion

This paper examines the relationship between dividend changes and future earnings changes among Korean firms and investigates whether ownership by foreign investors has an influence on this relationship. Given the nonlinearity that appears in the reversion-to-the-mean phenomenon, we tested the relationship between dividend changes and

future earnings changes by using the modified partial adjustment model from the Grullon et al. (2005). The model controls for nonlinear relationships between changes in future earnings and past earnings levels and changes. We found that the predictability of dividends is significant in the case of dividend increases, but for dividend decreases it is not statistically significant. We hypothesize that this result reflects the low dividend policy prevalent in the period 1992–1996. Consistent with this prediction, the predictability of dividends for this period is positive and significant while the predictability of dividends for the later period, 1999–2003, is positive but not significant. Based on this result, we conclude that the relationship between dividend changes and future profitability was likely changed by the change in the dividend policy.

In analyzing the effect of foreign ownership on predictability of dividend for the entire period, 1992–2003, we found that the coefficient of dividend change and the interaction term between dividend changes and foreign ownership were not significant for $\tau=1$ and $\tau=2$. This result could be interpreted as implying that the relation between dividend changes and future earnings changes does not depend significantly on the level of foreign ownership. However, there was an important policy change in year 1998, when a rule restricting ownership by foreign investors to a maximum of 50% was repealed. Therefore we check the effect of this change in policy by comparing the period 1992–1996 with the period 1999–2003. We found that after the policy change ownership by foreign investors had a positive effect on the relationship between dividend increase and future earnings increase in the year following the dividend increase year. This result is the same even after using Heckman two-stage analysis to control for the endogeneity problem.

In this study, we found that dividend changes in firms with higher foreign ownership have a positive relationship with future earnings changes in the year following the dividend change year. We further found that the result is pronounced for firms with a dividend increase. This study suggests that foreign investors in Korea play an important role in monitoring a firm's dividend decisions. As a result, news that a firm will increase its dividend implies that the firm is more likely to have positive future earnings.

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Table 1
Annual number of dividend changes

Year	Dividend increases	Dividend decreases	No change	Total
1992	94	151	60	305
1993	110	128	48	286
1994	126	112	64	302
1995	133	136	52	321
1996	130	158	39	327
1997	69	186	22	277
1998	114	105	33	252
1999	152	88	26	266
2000	139	148	25	312
2001	224	184	80	488
2002	255	199	84	538
2003	288	244	91	623
Total	1,834	1,839	624	4,297

This table reports the number of observations over time for dividend increases, decreases, and no change.

Table 2

Descriptive Statistics for Dividend Event Observations from 1992 to 2003 ('97,'98 excluded)

	Mean	STD	10%	25%	Median	75%	90%
Panel A. Dividend increases ($N = 1{,}651$)							
R△DIV	0.592	0.776	0.026	0.13	0.281	0.672	1.54
ROE	0.107	0.079	0.025	0.0502	0.093	0.147	0.211
ROA	0.055	0.047	0.008	0.019	0.042	0.079	0.11
FOR(%)	8.01	11.86	0	0.08	2.86	10.28	25.28
PAYOUT	0.372	0.436	0.102	0.169	0.277	0.445	0.664
Panel B. No change ($N = 569$)							
ROE	0.088	0.067	0.015	0.043	0.079	0.126	0.17
ROA	0.044	0.038	0.006	0.016	0.037	0.064	0.092
FOR(%)	6.21	10.77	0	0	1.07	8.14	19.48
PAYOUT	0.372	0.441	0.106	0.156	0.268	0.436	0.676
Panel C. Dividend decreases ($N = 1{,}548$)							
R△DIV	-0.311	0.279	-0.8	-0.5	-0.22	-0.069	-0.016
ROE	0.067	0.068	0.005	0.024	0.056	0.099	0.154
ROA	0.034	0.04	0.001	0.009	0.023	0.052	0.088
FOR(%)	5.5	8.93	0	0.03	1.58	7.6	15.59
PAYOUT	0.527	1.107	0.114	0.197	0.345	0.558	0.903
Panel D. All dividend events ($N = 3{,}768$)							
R△DIV	0.132	0.687	-0.5	-0.165	0	0.236	0.771
ROE	0.088	0.075	0.014	0.037	0.074	0.127	0.188
ROA	0.045	0.044	0.005	0.014	0.033	0.067	0.103
FOR(%)	6.71	10.64	0.00	0.04	1.93	8.96	20.42
PAYOUT	0.432	0.770	0.108	0.179	0.300	0.482	0.750

This table reports descriptive statistics for dividend event observations. R△DIV$_0$ = the rate of change in cash dividend per share relative to the previous year. ROEτ$_{-1}$ = net income in year 0 scaled by book value of equity at the year 0. FOR = level of foreign ownership

Table 3

Spearman correlation coefficients for dividend increases(decreases) below(above) the diagonal(p-values below coefficients)

	$(E_\tau - E_{\tau-1})/B_-$	$R\triangle DIV(-)$	FOR	SIZE	MTB	INVEST	ROE
$(E_\tau - E_{\tau-1})/B_-$	1	-0.01146	**0.05411**	-0.00938	-0.02825	**-0.10596**	**-0.1501**
		0.482	0.0009	0.5647	0.0829	<.0001	<.0001
$R\triangle DIV(+)$	0.01636	**0.66757**	**0.07559**	-0.02947	0.00373	**0.07858**	**0.21406**
	0.3154	<.0001	<.0001	0.0705	0.8192	<.0001	<.0001
FOR	**0.05411**	**0.06128**	1	**0.03493**	**0.25153**	**0.04956**	**0.17075**
	0.0009	0.0002		0.032	<.0001	0.0023	<.0001
SIZE	-0.00938	-0.0221	**0.03493**	1	**0.27001**	**-0.17972**	**-0.11779**
	0.5647	0.175	0.032		<.0001	<.0001	<.0001
MTB	-0.02825	-0.01412	**0.25153**	**0.27001**	1	**-0.05489**	**0.2632**
	0.0829	0.3862	<.0001	<.0001		0.0007	<.0001
INVEST	**-0.10596**	0.01731	**0.04956**	**-0.17972**	**-0.05489**	1	**0.08538**
	<.0001	0.2882	0.0023	<.0001	0.0007		<.0001
ROE	**-0.1501**	**0.2644**	**0.17075**	**-0.11779**	**0.2632**	**0.08538**	1
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	

This table reports correlation among variables. The bold values are significant at the 1percent level. $E_0 - E_{-1})/B_{-1}$ = earnings change in the event year 0 related to the earnings of year -1. $R\triangle DIV_0$ = the rate of change in cash dividend per share relative to the previous year. FOR = level of foreign ownership. SIZE = total asset / book value of equity. MTB = Market-to-book ratio. INVEST = Capital expenditure/Total asset. ROEτ_{-1} = net income in year 0 scaled by book value of equity at the year 0.

Table 4

Regressions of Future Earning Changes on Dividend Changes Using the Nissim and Ziv(2001) Method (92~03)

$$(E_\tau - E_{\tau-1})/B_{-1} = \alpha0 + \alpha1 DPC \times R\triangle DIV_0 + \alpha2 DNC \times R\triangle DIV_0 + \alpha3\ ROE_{\tau-1} + \alpha4\ (E_0 - E_{-1})/B_{-1} + \varepsilon\tau\ (1)$$

Variables	DEP = $(E_\tau - E_{\tau-1})/B_{-1}$, $\tau=1$			DEP = $(E_\tau - E_{\tau-1})/B_{-1}$, $\tau=2$		
	Coefficient	t-statistics		Coefficient	t-statistics	
Intercept	0.001	0.23		0.001	0.13	
$DPC \times R\triangle DIV_0$	0.075	2.08	*	-0.001	-0.2	
$DNC \times R\triangle DIV_0$	0.0006	0.65		0.019	2.38	**
$ROE_{\tau-1}$	-0.269	-6.2	***	-0.245	-4.5	***
$(E_0 - E_{-1})/B_{-1}$	-0.052	-1.21		-0.1	-2.28	**
Adj. R^2	0.049			0.059		

*, **, ***, Indicate two-tailed significance at the 10, 5, and 1 percent levels, respectively.

This table reports estimates of regression relating future earnings changes to current dividend changes. The sample consists of 3,768 observations for the year 1992 to 2003. Regression is estimated on the based on the Nissim and Ziv method. This model controls for uniform mean reverting and earnings autocorrelation by using linear model of earnings expectations. We use Fama-MacBeth (1973) approach to estimate the regression coefficients.

$(E\tau - E\tau_{-1})/B_{-1}$ = earnings change in year τ from year τ_{-1} deflated by the book value of equity at the beginning of the dividend event year. $R\triangle DIV_0$ = the rate of change in cash dividend per share relative to the previous year. DPC = 1 when dividend increases and 0

otherwise. DNC = 1 when dividend decreases and 0 otherwise. $ROE_{\tau-1}$ = net income in year 0 scaled by book value of equity at the year 0. $(E_0 - E_{-1})/B_{-1}$ = earnings change in the event year 0 related to the earnings of year -1.

Table 5

Regressions of Future Earning Changes on Dividend Changes Using the Grullon et al(2005) Method (92~03)

$$(E_\tau - E_{\tau-1})/B_{-1} = \alpha0 + \alpha1 DPC \times R\triangle DIV0 + \alpha2 DNC \times R\triangle DIV0$$
$$+ (\gamma1 + \gamma2 NDFED + \gamma3 NDFED \times DFE + \gamma4 PDFED \times DFE) \times DFE$$
$$+ (\lambda1 + \lambda2 NCED + \lambda3 NCED \times CE + \lambda4 PCED \times CE) \times CE + \varepsilon\tau$$

(2)

Variables	DEP = $(E_\tau - E_{\tau-1})/B_{-1}$, $\tau=1$			DEP = $(E_\tau - E_{\tau-1})/B_{-1}$, $\tau=2$		
	Coefficient	t-statistics		Coefficient	t-statistics	
Intercept	-0.15	-2.09	*	-0.025	-2.29	**
DPC×R△DIV$_0$	0.008	2.27	*	-0.002	-0.62	
DNC×R△DIV$_0$	-0.007	-0.74		0.015	1.68	
DFE	-0.056	-0.21		0.033	0.16	
DFE×NDFED	0.45	1.07		-0.14	-0.3	
DFE^2×NDFED	4.26	2.28	*	0.001	0	
DFE^2×PDFED	-3.6	-1.25		-3.28	-1.87	
CE	0.269	1.6		0.3	0.91	
CE×NCED	-0.461	-1.78		-0.66	-1.17	
CE^2×NCED	-1.16	-2.16	*	-0.67	-0.68	
CE^2×PCED	-1.17	-1.04		-0.57	-0.76	
Adj. R^2	0.108			0.054		

*, **, ***, Indicate two-tailed significance at the 10, 5, and 1 percent levels, respectively.
This table reports estimates of regression relating future earnings changes to current dividend changes. The sample consists of 3,768 observations for the year 1992 to 2003. Regression is estimated on the based on the Grullon et al method. This regression use the modified partial adjustment model proposed by Fama and French (2000) to control for the non – linearities in the relation between future earnings changes and lagged earnings level and changes. We use Fama-MacBeth (1973) approach to estimate the regression coefficients.
$(E\tau - E\tau_{-1})/B_{-1}$ = earnings change in year τ from year τ_{-1} deflated by the book value of equity at the beginning of the dividend event year. $R\triangle DIV_0$ = the rate of change in cash dividend per share relative to the previous year. DPC = 1 when dividend increases and 0 otherwise. DNC = 1 when dividend decreases and 0 otherwise. DFE = $ROE_0 - E[ROE_0]$, ROE_0 = return on equity in year 0. $E[ROE_0]$ is the fitted value from the cross-sectional regression of ROE_0 on logarithm of total assets in year -1, the logarithm of market to book ratio of equity in year -1, and ROE_{-1}. NDFED = 1 when DFE is negative and 0 otherwise. PDFED = 1 when DFE is positive and 0 otherwise CE = $(E_0 - E_{-1})/B_{-1}$. NCED = 1 when CE is negative and 0 otherwise. PCED = 1 when CE is positive and 0 otherwise.

Table 6

Regressions of Future Earning Changes on Dividend Changes Using the Grullon et al(2005)
Method

$$(E_\tau - E_{\tau-1})/B_{-1} = \alpha0 + \alpha1 DPC \times R\triangle DIV0 + \alpha2 DNC \times R\triangle DIV0$$
$$+ (\gamma1 + \gamma2 NDFED + \gamma3 NDFED \times DFE + \gamma4 PDFED \times DFE) \times DFE$$
$$+ (\lambda1 + \lambda2 NCED + \lambda3 NCED \times CE + \lambda4 PCED \times CE) \times CE + \varepsilon\tau \qquad (2)$$

Variables	DEP = $(E_\tau - E_{\tau-1})/B_{-1}$, τ=1 (92~96)			DEP = $(E_\tau - E_{\tau-1})/B_{-1}$, τ=1 (99~03)		
	Coefficient	t-statistics		Coefficient	t-statistics	
Intercept	-0.034	-2.31	*	-0.007	-2.13	
DPC×R△DIV$_0$	0.006	2.47	*	0.01	1.58	
DNC×R△DIV$_0$	-0.026	-2.19	*	0.009	0.63	
DFE	0.582	1.66		-0.557	-3.28	**
DFE×NDFED	-0.174	-0.31		0.7	1.92	
DFE^2×NDFED	5.614	1.56		1.95	1.15	
DFE^2×PDFED	-9.288	-2.56	*	2.61	3.37	**
CE	0.316	0.99		0.32	3.03	**
CE×NCED	-0.737	-1.5		-0.33	-2.18	*
CE^2×NCED	-2.390	-2.84	**	-0.16	-0.27	
CE^2×PCED	-1.135	-0.51		-1.95	-5.06	***
Adj. R^2	0.169			0.045		

*, **, ***, Indicate two-tailed significance at the 10, 5, and 1 percent levels, respectively.

This table reports estimates of regression relating future earnings changes to current dividend changes. Regression is estimated on the based on the Grullon et al method. This regression use the modified partial adjustment model proposed by Fama and French (2000) to control for the non – linearities in the relation between future earnings changes and lagged earnings level and changes. We use Fama-MacBeth (1973) approach to estimate the regression coefficients.

In this table, we compare two periods from 1992 to 1996 and from 1999 to 2003 by using equation (2)

$(E\tau - E\tau_{-1})/B_{-1}$ = earnings change in year τ from year τ_{-1} deflated by the book value of equity at the beginning of the dividend event year. $R\triangle DIV_0$ = the rate of change in cash dividend per share relative to the previous year. DPC = 1 when dividend increases and 0 otherwise. DNC = 1 when dividend decreases and 0 otherwise. DFE = ROE_0 – $E[ROE_0]$, ROE_0 = return on equity in year 0. $E[ROE_0]$ is the fitted value from the cross-sectional regression of ROE_0 on logarithm of total assets in year -1, the logarithm of market to book ratio of equity in year -1, and ROE_{-1}. NDFED = 1 when DFE is negative and 0 otherwise. PDFED = 1 when DFE is positive and 0 otherwise CE = $(E_0 – E_{-1})/B_{-1}$. NCED = 1 when CE is negative and 0 otherwise. PCED = 1 when CE is positive and 0 otherwise.

Table 7
Regressions of Future Earning Changes on Dividend Changes and Interactions of Foreign Ownership (92~03)

$$(E_\tau - E_{\tau-1})/B\text{-}1 = \alpha0 + \alpha1 DPC \times R\triangle DIV0 + \alpha2 DNC \times R\triangle DIV0 + \alpha3 FOR$$

$$+ \alpha4 DPC \times R\triangle DIV0 \times FOR + \alpha5 DNC \times R\triangle DIV0 \times FOR$$
$$+ (\gamma1 + \gamma2 NDFED + \gamma3 NDFED \times DFE + \gamma4 PDFED \times DFE) \times DFE$$
$$+ (\lambda1 + \lambda2 NCED + \lambda3 NCED \times CE + \lambda4 PCED \times CE) \times CE + \varepsilon\tau$$

(3)

Variables	DEP = $(E_\tau - E_{\tau-1})/B_{-1}$, $\tau=1$			DEP = $(E_\tau - E_{\tau-1})/B_{-1}$, $\tau=2$		
	Coefficient	t-statistics		Coefficient	t-statistics	
Intercept	-0.2	-2.67		-0.03	-2.4	**
DPC×R△DIV$_0$	0.005	1.06		-0.002	-0.33	
DNC×R△DIV$_0$	-0.003	-0.26		0.008	0.4	
FOR	0.0007	3.84	***	0.0006	1.93	*
DPC×R△DIV×FOR	0.0005	1.02		-0.001	-0.72	
DNC×R△DIV×FOR	-0.0009	-0.47		0.0006	0.23	
DFE	-0.086	-0.31		-0.02	-0.1	
DFE×NDFED	0.47	1.1		-0.113	-0.25	
DFE^2×NDFED	4.41	2.5	**	-0.138	-0.07	
DFE^2×PDFED	-3.48	-1.22		-3.09	-1.81	
CE	0.29	1.76		0.308	0.91	
CE×NCED	-0.48	-1.87		-0.644	-1.15	
CE^2×NCED	-1.25	-2.3	**	-0.617	-0.63	
CE^2×PCED	-1.27	-1.14		-0.573	-0.78	
Adj. R^2	0.129			0.07		

*, **, ***, Indicate two-tailed significance at the 10, 5, and 1 percent levels, respectively.

This table reports estimates of regression relating future earnings changes to current dividend changes and interaction of foreign ownership. The sample consists of 3,768 observations for the year 1992 to 2003. This regression use the modified partial adjustment model proposed by Fama and French (2000) to control for the non – linearities in the relation between future earnings changes and lagged earnings level and changes. We use Fama-MacBeth (1973) approach to estimate the regression coefficients.

$(E\tau - E\tau_{-1})/B_{-1}$ = earnings change in year τ from year τ_{-1} deflated by the book value of equity at the beginning of the dividend event year. $R\triangle DIV_0$ = the rate of change in cash dividend per share relative to the previous year. DPC = 1 when dividend increases and 0 otherwise. DNC = 1 when dividend decreases and 0 otherwise. FOR = level of foreign ownership. DFE = $ROE_0 - E[ROE_0]$, ROE_0 = return on equity in year 0. $E[ROE_0]$ is the fitted value from the cross-sectional regression of ROE_0 on logarithm of total assets in year -1, the logarithm of market to book ratio of equity in year -1, and ROE_{-1}. NDFED = 1 when DFE is negative and 0 otherwise. PDFED = 1 when DFE is positive and 0 otherwise CE = $(E_0 - E_{-1})/B_{-1}$. NCED = 1 when CE is negative and 0 otherwise. PCED = 1 when CE is positive and 0 otherwise.

Table 8
Regressions of Future Earning Changes on Dividend Changes and Interactions of Foreign Ownership

$$(E_\tau - E_{\tau-1})/B\text{-}1 = \alpha0 + \alpha1DPC \times R\triangle DIV0 + \alpha2DNC \times R\triangle DIV0 + \alpha3FOR$$
$$+ \alpha4DPC \times R\triangle DIV0 \times FOR + \alpha5DNC \times R\triangle DIV0 \times FOR$$
$$+ (\gamma1 + \gamma2NDFED + \gamma3NDFED \times DFE + \gamma4PDFED \times DFE) \times DFE$$
$$+ (\lambda1 + \lambda2NCED + \lambda3NCED \times CE + \lambda4PCED \times CE) \times CE + \varepsilon\tau$$

(3)

Variables	DEP = $(E_\tau - E_{\tau-1})/B_{-1}$, $\tau=1$ (92~96)			DEP = $(E_\tau - E_{\tau-1})/B_{-1}$, $\tau=1$ (99~03)		
	Coefficient	t-statistics		Coefficient	t-statistics	
Intercept	-0.038	-2.61	*	-0.009	-3.94	
DPC×R△DIV$_0$	0.008	1.50		0.003	0.41	
DNC×R△DIV$_0$	-0.013	-0.75		0.007	0.53	
FOR	0.0009	2.53	*	0.0005	1.86	
DPC×R△DIV×FOR	-0.0003	-0.31		0.0008	2.76	**
DNC×R△DIV×FOR	-0.002	-0.7		0.0004	0.4	
DFE	0.506	1.46		-0.609	-3.21	
DFE×NDFED	-0.139	-0.24		0.808	2.21	
DFE^2×NDFED	5.56	1.59		2.49	1.45	
DFE^2×PDFED	-8.81	-2.41	*	2.74	3.38	**
CE	0.326	1.03		0.365	3.42	**
CE×NCED	-0.722	-1.43		-0.39	-3.51	**
CE^2×NCED	-2.473	-2.92	**	-0.29	-0.45	
CE^2×PCED	-1.129	-0.52		-2.1	-6.34	***
Adj. R^2	0.19			0.064		

*, **, ***, Indicate two-tailed significance at the 10, 5, and 1 percent levels, respectively.
This table reports estimates of regression relating future earnings changes to current dividend changes and interaction of foreign ownership. This regression use the modified partial adjustment model proposed by Fama and French (2000) to control for the non – linearities in the relation between future earnings changes and lagged earnings level and changes. We use Fama-MacBeth (1973) approach to estimate the regression coefficients. In this table we compare two periods from 1992 to 1996 and from 1999 to 2003 by using equation (3)
$(E\tau - E\tau_{-1})/B_{-1}$ = earnings change in year τ from year τ_{-1} deflated by the book value of equity at the beginning of the dividend event year. $R\triangle DIV_0$ = the rate of change in cash dividend per share relative to the previous year. DPC = 1 when dividend increases and 0 otherwise. DNC = 1 when dividend decreases and 0 otherwise. FOR = level of foreign ownership. DFE = $ROE_0 - E[ROE_0]$, ROE_0 = return on equity in year 0. $E[ROE_0]$ is the fitted value from the cross-sectional regression of ROE_0 on logarithm of total assets in year -1, the logarithm of market to book ratio of equity in year -1, and ROE_{-1}. NDFED = 1 when DFE is negative and 0 otherwise. PDFED = 1 when DFE is positive and 0 otherwise CE = $(E_0 - E_{-1})/B_{-1}$. NCED = 1 when CE is negative and 0 otherwise. PCED = 1 when CE is positive and 0 otherwise.

Table 9

Heckman two-stage regression

1st stage: FH = α_0 LEVERAGE + α_1MTB + α_2CFO + α_3SIZE + α_4SALES + α_5ROE + ε (4)

2nd stage: $(E_\tau - E_{\tau-1})/B$-1 = $\alpha0$ + $\alpha1$DPC × R△DIV0 + $\alpha2$DNC × R△DIV0 + $\alpha3$FOR + $\alpha4$DPC × R△DIV0× FOR + $\alpha5$DNC × R△DIV0 × FOR + ($\gamma1$ + $\gamma2$NDFED + $\gamma3$NDFED×DFE + $\gamma4$PDFED×DFE) × DFE + ($\lambda1$ + $\lambda2$NCED + $\lambda3$NCED×CE + $\lambda4$PCED×CE) × CE + $\beta1$YEAR + $\delta1$IMR + $\varepsilon\tau$ (5)

Variables	DEP = $(E_\tau - E_{\tau-1})/B_{-1}$, τ=1		
	Coefficient	t-statistics	
Intercept	0.004	0.32	
DPC×R△DIV$_0$	-0.009	-1.38	
DNC×R△DIV$_0$	0.015	0.92	
FOR	0.0003	1.08	
DPC×R△DIV×FOR	0.001	2.88	***
DNC×R△DIV×FOR	-0.0004	-0.45	
DFE	-0.5002	-2.18	**
DFE×NDFED	0.581	1.44	
DFE^2×NDFED	1.976	1.22	
DFE^2×PDFED	0.375	0.26	
CE	0.415	2.81	***
CE×NCED	-0.235	-0.96	
CE^2×NCED	0.655	1.16	
CE^2×PCED	-1.708	-3.23	***
Lamda	-0.031	-1.64	
Adj. R^2	0.043		

*, **, ***, Indicate two-tailed significance at the 10, 5, and 1 percent levels, respectively.
This table reports the second-stage pooled regression results of the Heckman two-stage analysis. In the first stage, we perform the probit regression using the following equation (4) with the population. In the second stage, we add the inverse Mills' ratio to Equation (3) and re-estimate it. FH =1 when foreign investors are participated in the firm, 0 otherwise. MTB = market-to-book ratio. CFO = cash flow from operations / book value of equity. SIZE = total asset / book value of equity. SALES = total sales / book value of equity $(E\tau - E\tau_{-1})/B_{-1}$ = earnings change in year τ from year τ_{-1} deflated by the book value of equity at the beginning of the dividend event year. R△DIV$_0$ = the rate of change in cash dividend per share relative to the previous year. DPC = 1 when dividend increases and 0 otherwise. DNC = 1 when dividend decreases and 0 otherwise. FOR = level of foreign ownership. DFE = ROE$_0$ – E[ROE$_0$], ROE$_0$ = return on equity in year 0. E[ROE$_0$] is the fitted value from the cross-sectional regression of ROE$_0$ on logarithm of total assets in year -1, the logarithm of market to book ratio of equity in year -1, and ROE$_{-1}$. NDFED = 1 when DFE is negative and 0 otherwise. PDFED = 1 when DFE is positive and 0 otherwise CE = (E$_0$ –E$_{-1}$)/B$_{-1}$. NCED = 1 when CE is negative and 0 otherwise. PCED = 1 when CE is positive and 0 otherwise.

Table 10

The effect of foreign ownership on the likelihood and magnitude of dividend changes

DPC = α0 + α1FOR + α2LEVERAGE +α3MTB + α4TASSET + α5PROFIT +α6YEAR

+ α7CHA_ASSET + α8CAP_ INVEST + α9TANGIBLE + ετ

(6)

DPC × R△DIV0 = α0 + α1FOR + α2LEVERAGE +α3MTB + α4TASSET + α5PROFIT

+α6YEAR + α7CHA_ASSET + α8CAP_ INVEST + α9TANGIBLE

+ ετ   (7)

Variables	Model (6) DEP = DPC			Model (7) DEP = DPC× R△DIV0		
	Coefficient	Pr > Chisq		Coefficient	t-statistics	
Intercept	-1.17	<.0001	***	0.001	0.33	
FOR	0.007	0.033	**	0.0001	2.74	**
LEVERAGE	0.538	0.016	**	-0.005	-1.54	
MTB	-0.065	0.276		0.004	2.39	*
TASSET	0.0005	0.005	***	0.0001	0.26	
PROFIT	6.508	<.0001	***	0.104	7.53	***
CHA_ASSET	-0.0002	0.331		0.0001	0.84	
CAP_INVEST	0.007	0.943		0.007	1.08	
TANGIBLE	0.29	0.174		0.008	3.02	**

*, **, ***, Indicate two-tailed significance at the 10, 5, and 1 percent levels, respectively.
We use logistic models to estimate the effect of foreign ownership on the likelihood of dividend changes.
To estimate the effect of foreign ownership on the magnitude of dividend changes, we use Fama-MacBeth (1973) approach. The first stage computes cross-sectional regression coefficients each year using all the observations in that year. In the second stage, the time-series means and standard deviations of coefficients are calculated. The adjusted R^2 is the average adjusted R^2 of the cross-sectional regressions. Regressions are run separately for dividend increase events and dividend decrease events, respectively.
DPC= 1 for positive dividend changes and 0 otherwise. $R△DIV_0$ = the rate of change in cash dividend per share relative to the previous year. LEVERAGE = Leverage ratio. MTB = Market-to-book ratio. PROFITABILITY = ROE ratio. CHA_ASSET = Change in total assets. CAP_INVEST = Capital expenditure/Total asset. TANGIBLE = Tangible asset / Total asset. All other variables are defined in previous tables.

Table 11

Table 11

Regressions of Future Earning Changes on Dividend Changes and Interactions of Foreign Ownership (99~03, KSE)

$$(E_\tau - E_{\tau-1})/B\text{-}1 = \alpha0 + \alpha1DPC \times R\triangle DIV0 + \alpha2DNC \times R\triangle DIV0 + \alpha3FOR$$
$$+ \alpha4DPC \times R\triangle DIV0 \times FOR + \alpha5DNC \times R\triangle DIV0 \times FOR$$
$$+ (\gamma1 + \gamma2NDFED + \gamma3NDFED\times DFE + \gamma4PDFED\times DFE) \times DFE$$
$$+ (\lambda1 + \lambda2NCED + \lambda3NCED\times CE + \lambda4PCED\times CE) \times CE + \varepsilon\tau \qquad (3)$$

Variables	DEP = $(E_\tau - E_{\tau-1})/B_{-1}$, $\tau=1$			DEP = $(E_\tau - E_{\tau-1})/B_{-1}$, $\tau=2$		
	Coefficient	t-statistics		Coefficient	t-statistics	
Intercept	-0.01	-2.06		0.0009	0.08	
DPC×R△DIV$_0$	0.0002	0.02		-0.001	-0.11	
DNC×R△DIV$_0$	-0.001	-0.09		-0.015	-0.71	
FOR	0.0003	2.28	*	0.0006	2.13	
DPC×R△DIV×FOR	0.0009	3.02	**	-0.0004	-0.61	
DNC×R△DIV×FOR	-0.0001	-0.11		0.001	0.83	
DFE	-0.488	-2.06		-0.925	-2.68	*
DFE×NDFED	0.524	1.01		1.18	2.57	*
DFE^2×NDFED	2.63	1.33		3.20	3.73	**
DFE^2×PDFED	2.68	1.48		4.54	1.91	
CE	0.46	2.27	*	0.31	10.29	***
CE×NCED	-0.317	-1.10		-0.33	-1.55	
CE^2×NCED	0.738	0.87		-0.30	-0.32	
CE^2×PCED	-2.89	-2.60	*	-0.9	-1.63	
Adj. R^2	0.117			0.077		

*, **, ***, Indicate two-tailed significance at the 10, 5, and 1 percent levels, respectively.

This table reports estimates of regression relating future earnings changes to current dividend changes and interaction of foreign ownership. The sample consists of 1,528 observations for the year 1999 to 2003. This regression use the modified partial adjustment model proposed by Fama and French (2000) to control for the non – linearities in the relation between future earnings changes and lagged earnings level and changes. We use Fama-MacBeth (1973) approach to estimate the regression coefficients.

$(E\tau - E\tau_{-1})/B_{-1}$ = earnings change in year τ from year τ_{-1} deflated by the book value of equity at the beginning of the dividend event year. R△DIV$_0$ = the rate of change in cash dividend per share relative to the previous year. DPC = 1 when dividend increases and 0 otherwise. DNC = 1 when dividend decreases and 0 otherwise. FOR = level of foreign ownership. DFE = $ROE_0 - E[ROE_0]$, ROE_0 = return on equity in year 0. E[ROE_0] is the fitted value from the cross-sectional regression of ROE_0 on logarithm of total assets in year -1, the logarithm of market to book ratio of equity in year -1, and ROE_{-1}. NDFED = 1 when DFE is negative and 0 otherwise. PDFED = 1 when DFE is positive and 0 otherwise CE = $(E_0 - E_{-1})/B_{-1}$. NCED = 1 when CE is negative and 0 otherwise. PCED = 1 when CE is positive and 0 otherwise.

THE IMPACT OF BLOCK-HOLDER OWNERSHIP, FIRM SIZE AND LEVEL OF COMPETITION ON FINANCIAL DISCLOSURE OF MANUFACTURING COMPANIES LISTED IN THE INDONESIA STOCK EXCHANGE

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Abstract

The purpose of this study is to investigate whether the extent of company disclosure in Indonesia are affected by internal factors and external factor. Many previous studies related to disclosure conducted in Indonesia only focus to the internal factors, e.g. firm size and ownership structure (blockholder ownership). Unlike previous studies, we address the impact of competition as an external factor to company disclosure level. This study employs Botosan Index and Herfindahl Index (HI) as a proxy for the extent of disclosure and competition. The result shows that total asset as a proxy for firm size, blockholder ownership and level of competition have positive influence on company disclosure level

Keywords: *Competition, Herfindahl Index, Financial Disclosure, Firm Size, Ownership structure*

I. BACKGROUND

The Agency Theory suggests that there is asymmetric information[233] between management as the agent and the principal (i.e., owner of capital). According to Jensen and Meckling (1976), agency problem occurs when manager hides some information to the principal and diverts the company's asset to maximize his/her utility. As consequences, the agency problem can have a detrimental effect on shareholder value. Lang and Lundholm (1996) state a company can minimize asymmetric information between manager and shareholder by increasing a company's disclosure. Disclosure can be improved by providing not simply mandatory information (mandated disclosure) but additional information (voluntary disclosure) as well.

The advantages of higher disclosure are: 1) Higher disclosure reduces the cost of equity (Botosan (1997); Welker (1995); Marquardt and Wiedman (1998); Leuz and Verrechia (2000); Bloomfield and Wilks (2000); and Hail (2001), Tjakradinata (2000);

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[233] According to Scott (2000), there are two impacts of asymmetric information: adverse selection and moral hazard. The adverse selection refers to the willingness of the investor who has less information to buy the company stock with the lower price to compensate the agency problem caused by the manager in the future. Moral hazard problem occurs when manager acts inappropriately to the principal who has less information and cannot perfectly monitor the manager.

Sitanggang (2002); Adhariani(2004); and Budiarti (2007)); 2) Higher disclosure reduces the cost of debt (Sengupta, 1998). Higher disclosure improves the lender perception related to default risk of the company. Furthermore, the credit analysts will have more information regarding firm strategy and its ability to repay debt.

Some studies show that large shareholders (blockholders) have a positive relationship with company disclosure (Healy, Hutton and Palepu (1999); Jiambalvo, Rajgopal and Mitchell, Chia and Loh (1995); Aitken, Hooper and Pickering (1997); and Venkatachalam (2002)). The blockholders [234] control the company decision making including the decision related to the company disclosure. The blockholders have a greater willingness to discipline poorly performing management and more incentive to intervene and exercise 'voice' (Mayer (1997), Schmalensee and Willig (1989); and Tirole (1990)).

Other studies find that firm size, which is proxied by value of total assets, has a positive relationship with the extent of company disclosure (Arber, Carvell and Strebel (1983); Merton (1985); Chow and Wong-Boren (1987); King, Pownal and Waymire (1990); Bradbury (1991); Bradburyy (1992); Skinerr (1992); McKinnon and Dalimunthe (1993); and Berger and Hann (2002)). Bradbury (1991) states that firms with higher value of total assets but not followed proportionally by a higher disclosure level will suffer a greater potential loss relative to firms with small assets. Consequently, shareholders tend to increase monitoring and implementation of high disclosure policy for larger firms. Furthermore, Singhvi (1971) states that large firms necessarily implement a high disclosure policy to obtain easier access to financing and to increase stock liquidity.

Previous studies show the influence of blokholders and firm size on the extent of company disclosure. On the other hand, Bilson, Smith and Whaley (2006) stress the influence of competition level as an external factor to the extent of company disclosure. There is a trade-off to implement a higher disclosure. In industry with highly competitive environment, providing more voluntary disclosure in company annual report will have more advantage than industry with less competitive environment. Voluntary disclosure should provide more information about business strategy and their competitive advantage to the investor. Investor's positive perception on company stock would be beneficial to

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[234] Beside percentage of ownership large (block) holder, Singhvi (1971) uses the other proxy for ownership by using the number of shareholder

the existing stockholder. Verrecchia (2001) explains that in the industry with highly competitive environment, the potential loss caused by new entrants and existing competitors is relatively lower than the industry with low competitive environment. For a company that operates in low competitive environment, voluntary disclosure in the annual report results in more disadvantage than a potential loss caused by increasing competition from new entrants and existing competitors (Darrough and Stoughton (1990); Dye (2001); and Verrecchia (2001)). Furthermore, Dye (2001) states that in industry with low competitive environment, increasing level of company disclosure would cause a potential loss of company cash flow because the competitors reduce the company market share. Therefore, the empirical studies show that competition as an external factor affects a company disclosure level.

Based on previous studies, we can summarize that both firm size and ownership structure as internal factors and competition level as an external factor have a positive influence on company disclosure level. Therefore, the objective of this study is to investigate the influence of large shareholders, firm size and competition level on disclosure level of publicly listed companies in the Indonesia Stock Exchange. We include sample from manufacturing companies due to these companies tend to disclose more items compared to non-manufacture companies (Lincoln and Kalleberg (1990); Cooke (1989); Choi and Hiramatshu (1987); and Stanga (1976)).

The remainder of this paper is organized as follows. The second section provides literature review and hypothesis development. The third section describes research methodology meanwhile the fourth section explains empirical results. The final section provides conclusion and implication.

II. HYPOTHESIS DEVELOPMENT

Healy, Hutton and Palepu (1999); Jiambalvo, Rajgopal and Mitchell, Chia and Loh (1995); Aitken, Hooper and Pickering (1997); and Venkatachalam (2002) show that institutional ownership is positively correlated with company disclosure level. Their studies find that institutional ownership plays an active role in the monitoring and control

of the firm. As a result, they assure that management action align with shareholders' objective.

Mayer (1997), Schmalensee and Willig (1989); and Tirole (1990) state that institutional ownership is able to enforce management to increase voluntary disclosure and finally reduces information asymmetry between management and shareholders. Institutional investors with a greater ownership concentration and higher voting right exert their control over management by using incentives for examples: reward decision (i.e., giving more incentive or bonus to management) or punishment (i.e., to fire and replace the management or no-bonus to management). This finding is affirmed by Michell, Chia dan Loh (1995) dan Aitken, Hooper dan Pickering (1997) as well. They contend that higher dispersed ownership structure is associated with lower level of company disclosure.

Birt, Bilson, Smith and Whaley (2006) conclude that large shareholders (e.g. blockholder) exert control to company decision including disclosure policy. Birt, Bilson, Smith and Whaley (2006) also argue that blockholders would motivate company to increase disclosure in order to mitigate not only interest between shareholder and management but also among shareholders. Their study finds a positive relationship between ownership concentration and disclosure level. Therefore, the first hypothesis is:

 H1: Ownership by large shareholders is positively correlated with company disclosure level

Large firms tend to increase their disclosure level. Large firms will maintain their assets to prevent decrease or even loss due to improper policy or management frauds. Bradbury (1991) argues that a company with large assets but does not implement high disclosure level will suffer more potential loss than a company with small assets. Furthermore, Foster (1986); McKinnon and Dalimunthe (1993); Bradbury (1992); and Berger and Hann (2002) explain that a company with large assets will implement high disclosure policy to mitigate the agency problem between management and shareholders.

Singvhi (1971) argues that large firm will implement high disclosure policy because the advantage of easier access to get external financing and increasing the stock

liquidity. Meanwhile, Sengupta (1998) explains that large firms tend to disclose more because information about their assets is 'good news' to investors. Information on large assets will show that a company has a good reputation and ability to repay its loan or credit. As a result, the creditor will charge a lower cost of debt.

The positive impact of firm size to company disclosure is supported by Birt, Bilson, Smith and Whaley (2006) as well. Buzby (1975) also asserts that a company with large assets will have sufficient resources and information system to help the company in collecting and providing information. Based on previous studies, the second hypothesis is:

H 2: Level of assets has a positive relationship with company disclosure level

Dye (2001) argues that if disclosure is not mandatory, a company only provides favorable information to the stakeholders. The cost occurred due to disclosing unfavorable information is called proprietary cost (Verrecchia (2001)). Proprietary cost is a trade-off between incentive and disincentive resulting from implementing high disclosure policy. The incentive is to increase the stock price meanwhile the disincentive is a loss of market share (Verrecchia (2001)).

Verrecchia (2001) investigates the role of proprietary cost in order to explain why companies act reluctantly to disclose additional information (voluntary disclosure). Verrecchia (2001) argues that companies operate in a low-competitive environment has disincentive to reveal voluntary disclosure. They assume that voluntary disclosure will disclose too much information to their competitor and reduce their market share. Conversely, companies that operate in a highly competitive environment will have a greater incentive to disclose because the potential loss of market share is relatively lower than low competitive environment. Releasing additional information could be beneficial to the company because it could reduce asymmetric information between management and the shareholders (Hayes & Lundholm (1996); Harris (1998); Botosan and Stanford (2005), Harris (1998)). Therefore, the third hypothesis is:

H3: The level of competition is positively correlated with company disclosure level

III. RESEARCH METHODOLOGY

3.1. Variable Measurement

In measuring a company disclosure level, it is common to use a score or index that can be calculated based on disclosure items in a company annual report. In US and European countries there is a rating for disclosure level which is published by Association for Investment Management and Research (AIMR). This rating can be used as a reference to investors to evaluate adisclosure level of listed companies.

In addition to rating released by AIMR, several studies like Cerf (1961); Mautz and May (1978); Fith (1979); Nair and Frank (1980); Lee and Twedie (1981); Gray, Sweeney and Shaw (1984); Gray and Robertson (1989); and Cooke (1988, 1992) introduce several indexes as alternative measures of disclosure. A disclosure index can be used to measure the level of compliance to government or stock exchange regulation. This index could be used as an indicator of mandatory disclosure and/or voluntary disclosure. It is counted based on the explanation in the annual report regarding company financial status and its performance. All of information must be revealed, in qualitative or quantitative, in order to help stakeholders in making decision (Siegel and Shim (1994)).

Cerf (1961) employs a disclosure index that consists of several disclosure items. These items are constructed after studying investment decision-making process, by exploring how decisions are made by conducting some interview with security analysts and conducting some tests on reports produced by analysts. Another study, Cooke (1992) utilizes 165 disclosure items that include mandatory and voluntary disclosure items. His research constitutes further evidence on Shingvi and Desai (1971) empirical research.

Botosan (1997) employs disclosure quality with the use of an index calculated based on information provided in the annual report. Botosan (1997) demonstrates that annual report can be used to measure quality of disclosure. Lang and Lundholm (1993) in Botosan (1997) state that there is a positive relationship between annual report and other company's publications (the correlation coefficient is 0.62) and between annual report and AIMR disclosure rating (a correlation coefficient of 0.41). Thus, Botosan (1997) argues that disclosure on company annual report could be a good proxy of company disclosure.

Disclosure index developed by Botosan (1997) is classified into the following five categories: background information, summary of historical financial statistics, key non-financial statistics, projected information and management discussion and analysis. Each category has total score that is measured by using several disclosure items. The score depends on the level of information provided in annual report. In measuring each item, Botosan (1997) provides the list of disclosure items with explanation and guidance (anchor) to define the score so it is useful to minimize subjectivity in determining the score.

In contrast to US and Europe, Indonesia has no institution that provides disclosure index. Furthermore, most studies related to disclosure level in Indonesia employ Botosan Index (Tjakradinata (2000); Adhariani (2004); and Budiarti (2007)). As mentioned above, Botosan index could minimize subjectivity in measuring company disclosure.

In measuring disclosure level, it is necessary to understand the style and format of annual report of listed companies. In Indonesia, Badan Pengawas Pasar Modal (Bapepam) and Lembaga Keuangan as a regulator to monitor stock exchange in Indonesia has released a decree No: KEP-134/BL/2006 Regulation No X.K.6 that state there is obligation for publicly listed companies to publish an annual report. The decree also provides a guidance of the style and content of annual report that is mandatory to be informed to the public. According to that decree, companies have to explain significant changes compared to the last annual report.

The decree also requires certain information to be disclosed in the annual report, i.e., important financial summary, commissioner's report,[235] Board of Director (BOD) report, company profile, management discussion and analysis, report on corporate governance, responsibility of BOD on annual report, and audited financial report. Specifically on management discussion and analysis, a company has to explain the following information: review on operation of each segment of business, financial performance analysis, discussion and analysis on business condition, significant changes, impact to the company, prospect and achievement and also explanation about major accounting policies being used. The company can provide additional information

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[235] Indonesian companies apply a two-tier board, i.e., the supervisory board or the board of commissioner and the management board or the board of directors.

(voluntary disclosure) as well such as information about company strengths (or other 'good news') which can be beneficial to the company. Measuring disclosure level can be performed by determining and evaluating disclosure items provided in the annual report (which has to comply with the regulation standard).

In this study, the level of disclosure is calculated based on the list of disclosure items and weighted according to weighted item based on study by Botosan (1997). The formula of total disclosure value is given below:

$$TSCORE_i = \sum_{i=1}^{5} SCORE_{ij}$$

Disclosure total (TSCORE) is total score for company j in category i to all category (category 1 to 5). This score then will be divided by the maximum score of disclosure level:

$$DISC_i = \sum_{i=1}^{5} \frac{TSCORE_{ij}}{\max(TSCORE_i)}$$

Ownership structure is proxied by the percentage of ownership by large shareholders (block holders). Large shareholder is defined as a shareholder who own more than 5% of outstanding shares. Higher percentage of large shareholders shows a more concentrated ownership.

The competition level reflects the competition among companies which belong in the same industry classification (SIC). To measure the competition level, we use Herfindahl Index (HI)[236]. The value of competition is 1 minus Herfindahl Index (1-H1) and has a range between 0 until 1. The value close to zero means that the competition is low meanwhile the value close to one means that the competition is high. To calculate HI for each industry based on SIC, the study used the formula:

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[236] The other proxy for competition is Concentration Ratio (CR). It is called CR-4 or CR-8 which reflect the number of four or eight mean the number of biggest companies (Leuz (1999) and Harris (1998). This proxy is not used in this study due to not all industries have at least four public listed companies. This study uses Herfindahl Index because this index is commonly used in other research and also by US Department of Justice to investigate fraud of antitrust (Birt, Bilson, Smith and Walley (2006)). Besides Helfindahl Index is also well known Herfindahl-Hirschman Index (HHI) that has the same value with Herfindahl Index (HI) multiply by 10000. HHI has value 0 to 10000. If the value closes to 0, it shown perfect competition meanwhile if the value closes to 10000 means the market or industry is monopoly.

$$HI_J = \sum_{i+1}^{n_j} (\frac{R_{ij}}{Rj})^2$$

R_{ij} is a revenue of company i in industry j, n_j is a number of companies in industry j.

$$R_j \equiv \sum_{i=1}^{n_j} Rij$$

R_j is the revenue total of all companies in industry j.

3.2. Sample

To be included in the final sample, the observation has to meet the following criteria: 1) The companies are manufacturing listed companies; and 2) The company has an annual report in 2006. Furthermore, this study uses Standard Industry Code (SIC) to determine industry classification. This information is obtained from OSIRIS data base per April 1, 2008. On the other hand, we use one year annual report to measure company disclosure with the assumption that the format of annual report is constant over time and hence the annual report is a good proxy of overall company disclosure as well (Botosan, 1997).

3.3. Empirical Model

We employs Ordinary Least Squares Regression as shown below to investigate the influence of large shareholders, competition level and total assets to disclosure level.

DSCORE = βo + β1*O+ β2*C + β3*TA +

ε ....(1)

where

βo	=	Intercept
O	=	Large shareholder is defined as shareholder who own more than 5% of outstanding shares
C	=	Competition
TA	=	log(Total Aset)
ε	=	*error*

IV. EMPIRICAL RESULT

4.1 The Result of Sample Selection

The result of sample selection is shown in the table below:

Sample Data	Total	
	Company	**SIC**
Number of companies in manufacturing industries based on SIC (from OSIRIS)	107	24
Number of companies that is not reported 2006 annual report or the data is not available	6	1
Number of selected samples	101	23

Table 4.1
Summary of Sample Selection Procedure

4.2   Descriptive Statistic

The descriptive statistic on Table 4.2 shows that the average company disclosure level is 0.562408, meaning that companies disclose 56% disclosure items of Botosan Index. Based on the average disclosure level, 46 out of 101 companies have above average value. This result shows that the transparency level of manufacturing companies in the Indonesia Stock Exchange is relatively low. Furthermore, there is wide variation of disclosure level among manufacturing companies, i.e. between 0.228 and 0.9764. The relatively same result is shown by industry disclosure level (see Table 4.3). The average value of industry disclosure level is 54.6. % and 12 out of 23 industries has below average value.

The competition level in the industries (denoted by C and measured by using Herfindahl Index (1-H)) shows the average competition level is 0.582. There are 12 industries with value below mean HI industries. The lowest value is industry with SIC 262 (paper mills) with HI value 0.0043. Meanwhile the maximum HI value is industry with SIC 335 (rolling, drawing and extruding of nonferrous metals) with value of 0.08316.

As shown in Table 4.4, the industry with SIC 324 (Cement, Hydraulic) has the highest disclosure level (0.7614). This industry on average has large shareholder ownership (56.07 %) and large total assets (9.9021), which are higher compared to

average large shareholder ownership (38.24%) and average total asset (8.655) of all industries. Furthermore, the average value of competition for this industry (0.6155) is higher compared to average value of competition for all the industries (0.5196).

Table 4.2

Descriptive Statistic of Data Distribution for the Companies in 2006

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
Disc	101	.7481	.2283	.9764	.562408	.1478891	.022
TA	101	5.0937	5.2434	10.3371	8.651523	.8986841	.808
C	101	.8273	.0043	.8316	.582347	.2096920	.044
O	101	.91	.09	1.00	.3791	.25260	.064

Table 4.3

Descriptive Statistic on Distribution Data for Industries in 2006

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
DISC	23	.4307	.3307	.7614	.546826	.0985750	.010
O	23	.65	.18	.83	.3824	.18259	.033
TA	23	2.8500	7.0521	9.9021	8.655248	.6369608	.406
C	23	.8273	.0043	.8316	.519600	.2176460	.047

On the other hand, the industry with SIC 313 (steel works, blast furnaces and rolling and finishing) has the lowest disclosure level. This industry has the average ownership of large shareholder (25.9%) which is relatively lower than the average ownership of large shareholder in all industries (38.24%). The total assets of this industry

are 7.9741 and the competition is 0.4297. that are relatively lower than the average total assets (8.655) and competition (0.5196) of all industries.

Table 4.4

Data Distribution of the Industries in 2006

SIC	Average of Disc	Average of O (%)	Average of TA	Average of C	Companies Total
204	0.6689	42.30	9.0911	0.6036	4
208	0.6315	69.11	8.7039	0.6071	4
209	0.4472	27.66	8.7748	0.1306	5
211	0.5433	64.22	9.7421	0.5072	3
228	0.6066	35.93	7.8931	0.5749	6
229	0.5870	26.86	8.8506	0.7832	7
232	0.6378	18.16	8.9626	0.4305	3
243	0.6000	30.30	8.8146	0.6773	4
262	0.4725	61.04	7.8343	0.0043	2
267	0.5514	18.57	9.2034	0.6489	3
283	0.6424	60.09	8.7140	0.7165	9
284	0.4843	40.77	8.1103	0.1735	4
289	0.5121	30.32	8.5609	0.6971	9
301	0.4882	30.13	9.2254	0.3667	3
308	0.5173	30.38	8.3347	0.7712	9
314	0.4370	32.48	8.2989	0.5489	2
324	0.7614	56.07	9.9021	0.6155	3
325	0.5459	20.24	9.0305	0.3269	3
331	0.3307	25.99	7.9741	0.4297	2
335	0.6308	20.81	8.7574	0.8316	7
341	0.4016	33.75	8.2897	0.3578	2
349	0.4751	21.73	7.0521	0.4579	3
371	0.6040	82.68	8.9501	0.6899	4

Based on result of descriptive statistics above, we conclude that disclosure level tends to increase along with ownership of large shareholders, total assets and competition level.

4.3. Analysis of Correlation among Variables

The results of correlation tests are consistent with the expectation, i.e., total assets and competition correlate positively with disclosure level at significant level of 1 % while large shareholders ownership correlates positively with disclosure level at significant level 5 %.

Tabel 4.5
The Pearson Correlation Test among Variables

Correlations

		Disc	O	TA	C
Pearson Correlation	Disc	1.000	.200	.260	.292
	O	.200	1.000	.044	.007
	TA	.260	.044	1.000	.101
	C	.292	.007	.101	1.000
Sig. (1-tailed)	Disc	.	.023	.004	.002
	O	.023	.	.331	.471
	TA	.004	.331	.	.158
	C	.002	.471	.158	.
N	Disc	101	101	101	101
	O	101	101	101	101
	TA	101	101	101	101
	C	101	101	101	101

4.4. Regression Analysis

OLS regression is conducted after validity check that assumption of OLS regression is fulfilled. As shown in table 4.6, the regression has R^2 30%, meaning that the internal factors (ownership of large shareholder and total asset) and the external factor (competition) can explain 30 % variation of company disclosure level.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.549[a]	.302	.280	.1154597

a. Predictors: (Constant), TA, O, C

b. Dependent Variable: Disc

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	.090	.135		.670	.505	-.178	.359
	O	.110	.054	.188	2.033	.045	.003	.217
	TA	.037	.015	.225	2.422	.017	.007	.067
	C	.189	.065	.268	2.891	.005	.059	.319

a. Dependent Variable: Disc

The coefficient of ownership structure is 0.110 and significant level at 5 %. So, this study finds that there is a positive relationship between ownership of large shareholders and level disclosure. This finding supports the assertion that greater ownership of large shareholders will enforce management to implement high disclosure policy in order to assure management act in the best interest of shareholder.

This study finds that the coefficient of total asset is positive (2.422) and significant at the 5 % level (p-value = 0.017). Therefore, the result proves that larger asset will enforce firms to increase their disclosure level. This finding supports the argument that: 1) potential loss caused by agency problem is higher for company with large assets (Foster (1986); McKinnon and Dalimunthe (1993); Bradbury (1992); and Berger and Hann (2002)); 2) increasing transparency of large total assets will show company's good reputation. Furthermore, company will get easier access to external financing (Sengupta, 1998).

The coefficient of competition is positive (2.891) and significant at the 1 % level (0.005). Thus, higher competition encourages the company to increase their disclosure. This finding supports the argument that companies in a highly competitive environment will have a greater incentive to disclose because the potential loss of market share is relatively lower than low competitive environment. Releasing additional information is beneficial to the company because it could reduce asymmetric information between management and the shareholders (Hayes and Lundholm (1996); Harris (1998); Botosan and Stanford (2005), Harris (1998); Botosan and Stanford (2005)).

V. CONCLUSION AND IMPLICATION

This study shows that disclosure levels of listed companies in the Indonesia Stock Exchange are affected by: 1) internal factors: i.e., ownership of large shareholder and total assets; 2) external factor, i.e. competition. Using Botosan Index as a proxy of company disclosure and Herfindahl Index as a proxy of competition, the results show that ownership of large shareholders, total assets, and competition have a positive influence on level of disclosure. The implication of this study is that the government should play an active role to encourage favorable business competition so the high competition can motivate companies to implement high disclosure. Furthermore, regulator on stock exchange (Bapepam & LK) and the Indonesia Stock Exchange should improve the mechanism to increase disclosure level of public listed companies in Indonesia in order to create better fairness business environment and risk-protection for investors.

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THE IMPACT OF SMOKING BAN *FATWA ON* INDONESIAN TOBACCO'S COMPANY: EVIDENCE FROM STOCK MARKET RETURN

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Abstract

The objective of this study is to assess the share price reactions to smoking ban *fatwa* on Indonesia tobacco's company. We expect that the smoking ban fatwa in the world's largest Muslim population will hit the tobaccos industry revenues, lower tobacco's company profit and eventually affect the share price of those firms. We use event study methodology and standard market model to calculate abnormal returns of the tobacco's firms related to the news of smoking ban *fatwa*. Our study failed to find a statistically significant effect of smoking ban *fatwa* on tobacco's firm stock market return. It suggests that the investors do not see the *fatwa* as a factor that may control the tobacco consumption in Indonesia – thus it may not affect the tobacco's firm revenues and profit in the future

Keywords: smoking ban *fatwa*, tobacco industry, event study.

1. INTRODUCTION

The purpose of this study is to examine the impact of smoking ban *fatwa* on share price of Indonesian tobacco's company. Given the recent introduction of the *fatwa,* the effect of such restriction is unknown. Understanding how the financial market will react to the restriction of this nature is important; as firms that are engaged in tobacco industry might find that the *fatwa* will hit their revenues, thus will lower their profit and eventually affects the future prospect of their business. The ulema's decision to ban smoking in public, children and pregnant woman has fueled the debate whether the decision will have an impact in the tobacco industry which provide work for millions workers.

The first argument is that the decision will affect the industry as most of Indonesia's populations are Muslims; hence it is most likely they will adhere to the *fatwa.* As a consequence it may hit the business (i.e. tobacco producer) that it could trigger a drop in cigarette output. The second argument is that the *fatwa* did not apply a blanket ban on smoking; it instead issued a fatwa placing more limited restrictions on tobacco

use. In addition, even though Indonesia is the largest Muslims country in the world, Indonesia has been known as a secular country where the *fatwa* is not legally binding for Muslims. Therefore one may argue that little effect will occur to the tobacco business.

Our study failed to find a statistically significant negative abnormal return as an effect of smoking ban *fatwa* on tobacco's firms. It provides evidence that the investors do not see *fatwa* as a factor that may control the tobacco consumption in Indonesia – thus it may not affect the tobacco's firm revenues and profit in the future. Additional test by comparing the abnormal returns of firms in tobacco industry and banking industry – as control group – provide a support our conclusion. We do not find a statistically significant difference between abnormal returns of firms in tobacco industry compare to firms in banking industry in the event date of smoking ban *fatwa* news.

The remainder of the study is organized as follows. A background to the smoking band *fatwa* issuance is provided in section 2. Development of hypotheses and literature review are discussed in Section 3, and Section 4 presents data selection. Section 5 illustrates the methodology of the study and Section 6 reports the results. Section 7 summarizes the study.

2. REGULATORY BACKGROUND

Smoking is widespread in Indonesia, with cigarettes among the cheapest in the world at around $2 a pack, Indonesia is the world's No. 5 tobacco market. Many Indonesians also have a strong cultural affinity with smoking, with pressure to hang out and smoke after celebrations for births or weddings in villages across the archipelago. Some cities in Indonesia, including Jakarta, have banned smoking in public places, but the rules are widely ignored. The US$8 billion tobacco industry in Indonesia plays an important economic role, with tax on cigarettes accounting for about 10 per cent of government income in the past, while the sectors provide millions of jobs.

In order to reduce tobacco consumption, the anti smoking campaigners had urged the government to ratify the World Health Organisation's Framework Convention on Tobacco Control. Indonesia, however, has been reluctant to sign up because of concerns about the impact on the economy despite the health risks from smoking. This issue has brought the attention of Majelis Ulama Indonesia (MUI) or Ulema Council - a top islamic body in the world's most populous Muslim. The council, established in 1975, has carved a key role for itself in Indonesia and its pronouncements on everything from Islamic banking to halal food can have a big influence on Southeast Asia's biggest economy.

The debate over smoking has revealed a split between those wanting to make it "haram," or not allowed, and others who favor a "makruh," a Arabic term whereby it would only be advised that smoking is bad and it is better to drop it. Some clerics also argued that there was no Islamic tenet that bans smoking. Finally, **on Sunday, January 25**, nearly 700 people, including Muslim clerics and theological experts, have gathered in West Sumatra for the National Edict Commission meeting, which could issue *fatwa* whether to apply a blanket ban on smoking for Muslims or place a more limited restriction on tobacco use. In the end, after a heated debate, the council said a decision could not be reached and only forbade smoking in public or smoking by council members of MUI, children and pregnant women. The fatwa is not legally binding for Muslims, who make up some 86.1 percent of Indonesia's 235 million population, but place pressure on Muslims to adhere to them and can influence government policy.

3. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Prior studies related to the smoking ban policies around the world have been extensively examined, not only from health and environment perspective but also from economic view. The evidence on the impact of smoking ban on business is mix. A body

of literature finds that there is no significant effect of smoking ban on business. Bartosch and Pope (1999) and Alpert, Carpenter, Travers and Connolly (2007), for example, do not find significant effect of Massachusetts smoke-free workplace policies on restaurant business and several economic indicators. By analyzing 97 studies that made statement about economic impact of smoke-free policies - Scollo, Lal, Hyland and Glantz (2003) conclude that all of the best designed and independent studies report no impact of smoke-free restaurant and bar laws on sales and employment. Using Australia's cigarette and tobacco consumption product, real income and demographic effects as contextual factors, Bardsley and Olekalns (1999) also find a relatively minor impact of workplace smoking bans and anti-smoking advertising on cigarette and tobacco consumption.

The second body of literature has documented evidence on the negative impact of smoking ban on business. Adda, Berlinski and Machin (2007) for example, used a quasi-experimental research design that compared the sales and number of customers in public houses located in Scotland before and after the Scottish smoking ban was introduced, relative to a control group of establishments across the English border where no ban was imposed. They find suggests that the Scottish smoking ban had a negative economic impact on public houses, at least in the short run, due in part to a drop in the number of customers and sales. Using stock market return and event study as main methodology, Tomlin (2009) documents negative abnormal stock returns to portfolios of the hospitality industry firms examined upon the announcement of a proposed smoking ban. These results support the conclusion that a smoking ban lowered the aggregate market value of these firms.

In Indonesian context, ulema's decision to ban smoking in public, children and pregnant woman has also fueled the debate whether it will have an effect to the tobacco industry or not. The first argument is that the decision will affect the industry as most of

Indonesia's populations are Muslims; hence it is most likely they will adhere to the *fatwa.* As a consequence it may hit the business (i.e. tobacco producer) that it could trigger a drop in cigarette output. The second argument is that the *fatwa* did not apply a blanket ban on smoking; it instead issued a fatwa placing more limited restrictions on tobacco use. In addition, even though Indonesia is the largest Muslims country in the world, Indonesia has been known as a secular country where the *fatwa* is not legally binding for Muslims. Therefore one may argue that little effect will occur to the tobacco business.

Given the forward looking characteristics of capital markets, investors in stocks are expected to be among the first to react to the smoking bans *fatwa* that may has adverse effects on the revenues and profits of tobacco firms. It is expected that the market participants are able to assess the risk and uncertainty of future profitability of the tobacco firm due to smoking ban *fatwa.* Therefore, the first hypothesis for this study is (stated in alternative hypothesis):

H_1:   *The abnormal returns for firms in tobacco industry at the event window of smoking ban* fatwa *are negative*

Since the smoking ban *fatwa* is expected to have an effect on tobacco industry firm due to the characteristic of the industry, we expect that there is no similar reaction to the banking industry as a control group. Therefore, the second hypothesis for this study is (stated in alternative hypothesis):

H_2:   *There is a difference between the abnormal returns for firms in tobacco industry and banking industry at the event window of smoking ban* fatwa.

4. DATA

We have 2 sample categories: experiment and control sample. The share price data are obtained from Indonesian Stock Exchange (ISX) database. In order to be included in the experiment sample, we use the following sample selection category:

1. The firms are included in tobacco industry – the industry that most likely will be most affected by the smoking ban *fatwa;*

2. The firms' shares are actively traded during 200 days in estimation period and during event day period; and

3. The firms do not experience any confounding events such as earnings and dividend announcement during the observation period.

It brings us with experiment sample firms as listed in Table 1 below:

[INSERT TABLE 1 HERE]

The control samples are firms in banking industry. We choose banking industry as control sample based on the reason that the industry will not be affected by the smoking ban *fatwa* news. Additionally, the firms shares should actively traded during 200 days in estimation period and during event day period; those firms do not experience any confounding events such as earnings and dividend announcement during the observation period. Table 2 depicts the firm in banking industry that meet the above category.

[INSERT TABLE 2 HERE]

5. RESEARCH DESIGN AND METHODOLOGY

5.1 Empirical Model

5.1.1 The Standard Market Model

As the objective of this study is to investigate the market reaction upon the smoking ban *fatwa* news, the event study methodology is employed. This methodology allows us to measure the effect of a particular event on the share return of the firms. To

estimate the abnormal return for each day related to market reaction of smoking ban *fatwa news*, a standard market model is used (see Equation 1).

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it} \quad ^{237,\ 238}$$

(1)

Equation 1 is applied to estimate the OLS parameters, $\hat{\alpha}_i$ and $\hat{\beta}_i$. The estimation period used in this study covers 200 days prior to day -1. The abnormal returns surrounding each event are determined based on Equation 2.

$$AR_{it} = R_{it} - (\hat{\alpha}_i + \hat{\beta}_i R_{mt}) \quad ^{239}$$

(2)

In addition to a daily event window, a 3-day event window (-1 to +1), a 5-day event window (-2 to +2) and a 7-day event window (-3 to +3) are calculated. It is assumed that the length of the event window is enough to capture possible expectation or information leakage before the event, while it is not too long to face problems with confounding events falling within the event window. Cumulative abnormal returns (CAR$_{it}$) for each firm are computed by summing up the firm's abnormal return during the event window (Equation 3).

$$CAR_{it} = \frac{1}{N} \sum_{t=1}^{t=N} \varepsilon_{it} \quad ^{240}$$

(3)

---

[237] R_{it} and R_{mt} are calculated using the following equation: $R_{it} = (P_{it} - P_{it-1})/ P_t$, $R_{mt} = (M_t - M_{t-1}) / Mt$, where P_{it} is the share price of firm *i* at time *t*; P_{it-1} the share price of firm *i* at time *t-1*, M_t is the market index of at time *t*; M_{t-1} is the market index at time *t-1*

[238] In equation 1, R_{it} is the security return for firm *i* on day *t*, R_{mt} is the market return on BEI composite index (IHSG) on day *t*, α_i and β_i are the Ordinary Least Square (OLS) coefficients and ε_{it} is the disturbance term (residual)

[239] In equation 2, AR is the abnormal return for firm *i* on day t and $\hat{\alpha}_i$ and $\hat{\beta}_i$ are the OLS estimates of market model parameters for *firm i.*

[240] In equation 3, CAR_{it} is the cumulative abnormal return for firm *i* in time *t* and *N* is the number of days in the event widow.

6. EMPIRICAL RESULTS

6.1 Descriptive Statistics

6.1.1 Tobacco's Firm

Table 3 reports descriptive statistics for abnormal returns for the 4 experiment sample firms. Panel A, B, C and D show the descriptive statistics for daily abnormal return *(AR)*, 3-day, 5-day and 7-day cumulative abnormal returns *(CAR)* surrounding the events.

[INSERT TABLE 3 HERE]

Panel A in Table 3 shows that the daily *AR* (day -1 to day +1) from for January 27 event window are positive except for the day 0, which is the first trading day after smoking ban *fatwa* news[241]. In day 0, it shows that the *AR* is -0.00535 (negative) while in day -1 and +1 are 0.01267 and 0.00955, respectively. As illustrated in Panel B, the *AR* also became positive when the returns were accumulated for 3 days except for day 0 to day +2 where the *AR* is -0.00006. Moreover, we find that the *AR,* remained positive when returns were accumulated for 5 days and 7 days as depicted in Panel C and D respectively.

6.1.2 Control Firms

Table 4 reports descriptive statistics for abnormal returns of the control firms from banking industry. Panel A, B, C and D show the descriptive statistics for daily abnormal return *(AR)*, 3-day, 5-day and 7-day cumulative abnormal returns *(CAR)* surrounding the events.

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[241] The smoking ban *fatwa* was issued on Sunday, January 25. The trading day started on Tuesday, January 27, since Monday, January 26 was a Chinese New Year public holiday.

[INSERT TABLE 4 HERE]

In general, it is interesting to see that the share price reaction in banking during the event date were moving into opposite direction compare to the share price movement in tobacco industry. Panel A in Table 4 shows that the daily *AR* (day -1 to day +1) from for January 27 event window are negative except for the day 0. In day 0, it shows that the *AR* is 0.00120 (positive) while in day -1 and +1 are -0.03147 and -0.01456, respectively. As illustrated in Panel B, the *AR* also became negative when the returns were accumulated for 3 days. Finally, we find that the *AR,* remained negative when returns were accumulated for 5 days and 7 days as depicted in Panel C and D respectively.

6.2 Empirical Results

Table 5 reports the abnormal return and cumulative abnormal return surrounding the event date. The result shows the mean coefficient for daily AR for the news related to the smoking ban *fatwa* is negative. Meanwhile, the 3-day, 5-day and 7-day CAR is positive.

[INSERT TABLE 5 HERE]

The empirical results of daily, three-day, five-day and seven-day abnormal returns for 4 tobacco firm provide mix evidence. The parametric test (*t*-test) for January 27, 2009 event window shows that AR is only significant at 15% level using one tailed test, with *t*-statistic (*p*-value) of -1.433 (0.13). However, the CAR_3, CAR_5 and CAR_7 are not significant with *t*-statistics (*p*-value) of 0.646 (0.25), 0.688 (025) and 1.327 (0.16), correspondingly. Hence, we only find little evidence to support on H_1 on which the market reacts negatively to smoking ban *fatwa* news.

We provide some explanations on why market does not react strongly to the smoking ban *fatwa* are (1) the equity investors believe that the smoking ban *fatwa* is not legally binding; hence it may not affect the tobacco industry significantly (2) the market believes that the smoking ban *fatwa* is not a blanket on smoking. The fatwa is basically not to ban smoking for Muslims, it instead issued a *fatwa* placing more limited restrictions on tobacco use, especially to the group of smoker who smoke in public, children and pregnant woman.

Consistent with the result in Table 5, our parametric test on abnormal return of tobacco firms and banking firms as control sample provide no support to H_2. In other words, there is no difference on abnormal return at the date of smoking ban *fatwa* – between firms in tobacco industry and banking industry. The result is shown in table 6 below.

[INSERT TABLE 6 HERE]

As illustrated in Table 6, The AR, CAR_3, CAR_5, and CAR_7 difference between firms in tobaccos industry and banking industry are not significant with *t*-statistics (*p*-value) of -0.115 (0.45), 0.648 (0.25) 0.594 (0.30) and 0.908 (0.19), correspondingly.

7. CONCLUSION

The objective of this study is to assess the share price reactions to smoking ban *fatwa* on Indonesia tobacco's company. We expect that the smoking ban fatwa in the world's largest Muslim population will hit the tobaccos industry revenues, lower tobacco's company profit and eventually affect the share price of those firms. Our study failed to find a statistically significant effect of smoking ban *fatwa* on tobacco's firm stock market return. It suggests that the investors do not see the *fatwa* as a factor that may control the

tobacco consumption in Indonesia – thus it may not affect the tobacco's firm revenues and profit in the future

We provide some explanations on why market does not react strongly to the smoking ban *fatwa* are (1) the equity investors believe that the smoking ban *fatwa* is not legally binding; hence it may not affect the tobacco industry significantly (2) the market believes that the smoking ban *fatwa* is not a blanket on smoking. The fatwa is basically not to ban smoking for Muslims, it instead issued a *fatwa* placing more limited restrictions on tobacco use, especially to the group of smoker who smoke in public, children and pregnant woman.

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Table. 1
Sample Firms from Tobacco Industry

No.	Company's name	Sectors	Code
1	BAT Indonesia Tbk.	*Tobacco Manufactures*	BATI
2	Bentoel International Investama Tbk.	*Tobacco Manufactures*	RMBA
3	Gudang Garam Tbk.	*Tobacco Manufactures*	GGRM
4	HM Sampoerna Tbk.	*Tobacco Manufactures*	HMSP

Table 2.
Firms from Banking Industry as Control Sample

No.	Company's name	Sector	Code
1	Bank Agroniaga Tbk.	*Banking*	AGRO
2	Bank Bumiputera Indonesia Tbk.	*Banking*	BABP
3	Bank Capital Indonesia Tbk.	*Banking*	BACA
4	Bank Central Asia Tbk.	*Banking*	BBCA
5	Bank UOB Buana Tbk.	*Banking*	BBIA
6	Bank Bukopin Tbk.	*Banking*	BBKP
7	Bank Negara Indonesia (Persero) Tbk.	*Banking*	BBNI
8	Bank Nusantara Parahyangan Tbk.	*Banking*	BBNP
9	Bank Rakyat Indonesia (Persero) Tbk.	*Banking*	BBRI
10	Bank Century Tbk.	*Banking*	BCIC
11	Bank Danamon Tbk.	*Banking*	BDMN
12	Bank Eksekutif International Tbk.	*Banking*	BEKS
13	Bank Kesawan Tbk.	*Banking*	BKSW
14	Bank Mandiri (Persero) Tbk.	*Banking*	BMRI
15	Bank Bumi Arta Tbk.	*Banking*	BNBA
16	Bank Niaga Tbk.	*Banking*	BNGA
17	Bank International Indonesia Tbk.	*Banking*	BNII
18	Bank Permata Tbk.	*Banking*	BNLI
19	Bank Swadesi Tbk.	*Banking*	BSWD
20	Bank Victoria Int'l. Tbk.	*Banking*	BVIC

Day	Mean	Median	SD	Q1	Q3	Min	Max
TABLE 3							
Descriptive Statistics for Abnormal Returns and CAR of 4 Tobacco Companies							
Panel A: Daily AR for January 27 event window							
-1	0.01267	0.00053	0.02917	-0.0055	0.0429	-0.00637	0.05598
0	-0.00616	-0.00637	0.00859	-0.0143	0.0022	-0.01633	0.00443
+1	0.00955	0.00513	0.01412	-0.0005	0.024	-0.00215	0.03008
Panel B: CAR$_3$ for January 27 event window							
-2 to 0	0.00492	0.00297	0.01123	-0.0045	0.0163	-0.00651	0.02025
-1 to 1	0.00535	-0.00221	0.01657	-0.0038	0.0221	-0.00432	0.03016
0 to +2	-0.00006	-0.00177	0.01171	-0.0104	0.0119	-0.01209	0.01538
Panel C: CAR$_5$ for January 27 event window							
-3 to 1	0.01303	0.01081	0.01836	-0.003	0.0313	-0.00382	0.03432
-2 to +2	0.00414	0.00199	0.01205	-0.0061	0.0165	-0.00789	0.02049
-1 to +3	0.00611	0.00022	0.01570	-0.0046	0.0227	-0.00481	0.02881
Panel D: CAR$_7$ for January 27 event window							
-3 to +3	0.01138	0.01060	0.01714	-0.0038	0.0274	-0.00431	0.02862

Day	Mean	Median	SD	Q1	Q3	Min	Max
TABLE 4							
Descriptive Statistics for Abnormal Returns and CAR of 20 Sample Control Firm							
Panel A: Daily AR for January 27 event window							
-1	-0.03147	-0.01378	0.06320	-0.0348	-0.0004	-0.27329	0.01491
0	0.00120	-0.00433	0.12574	-0.0183	0.0028	-0.36428	0.38449
+1	-0.01456	0.00206	0.07615	-0.0091	0.0189	-0.27685	0.04991
Panel B: CAR_3 for January 27 event window							
-2 to 0	-0.01615	-0.00612	0.07348	-0.0134	0.0016	-0.30696	0.10394
-1 to 1	-0.01511	-0.00395	0.06174	-0.0098	0.0011	-0.27028	0.03809
0 to +2	-0.00551	0.00189	0.06529	-0.007	0.0182	-0.26693	0.07906
Panel C: CAR_5 for January 27 event window							
-3 to 1	-0.01940	-0.00771	0.06037	-0.0128	0.0004	-0.27349	0.01266
-2 to +2	-0.01290	-0.00161	0.06175	-0.0092	0.0067	-0.27148	0.01982
-1 to +3	-0.01474	-0.00318	0.06534	-0.0128	0.0098	-0.28748	0.02619
Panel D: CAR_7 for January 27 event window							
-3 to +3	-0.01808	-0.00728	0.06335	-0.012	0.0024	-0.28486	0.01077

TABLE 5					
Daily, Three-Day, Five Day and Seven Day Abnormal Returns for 4 Tobacco Firm					
in Response to Smoking Ban *Fatwa*					
Event Date	Expected Sign	One Day Abnormal Return (*t*-stat.)	Three-Day Abnormal Returns (*t*-stat.)	Five-Day Abnormal Returns (*t*-stat.)	Seven Day Abnormal Returns (*t*-stat.)
January 27, 2009	-	-0.0062 (-1.433)*	0.0054 (0.646)	0.0041 (0.688)	0.0114 (1.327)

All tests of hypotheses are directional (one-tailed)

*, indicate significant results at the 15 percent levels.

Abnormal returns (AR) and Cumulative Abnormal Returns are computed using the following model:

$$AR_{it} = R_{it} - (\hat{\alpha}_i + \hat{\beta}_i R_{mt})$$

$$CAR_{it} = \frac{1}{N} \sum_{t=1}^{t=I} AR_{it}$$

Where:

AR_{it} is the abnormal return for firm i on day t, R_{mt} is the market return on IDX composite index on day t, R_{it} is the security return for firm i on day t, $\hat{\alpha}_i$ and $\hat{\beta}_i$ are the OLS estimates of market model parameters for firm i, CAR_{it} is the Cumulative Abnormal Return for firm i, I is the number of days in the event widow, and N is the total number of observation.

<table>

	TABLE 6			
	Daily, Three–Day, Five Day and Seven Day Abnormal Returns for 4 Tobacco Firms versus 20 Firms from Banking Industry in response to Smoking Ban *Fatwa*			

Event Date	Expected Sign	Mean Difference One Day Abnormal Return (*t*-stat.)	Mean Difference Three-Day Abnormal Returns (*t*-stat.)	Mean Difference Five-Day Abnormal Returns (*t*-stat.)	Mean Difference Seven Day Abnormal Returns (*t*-stat.)
January 27, 2009	?	-0.0074 (-0.115)	0.0205 (0.648)	0.0170 (0.594)	0.0295 (0.908)

All tests of hypotheses are directional (one-tailed)

Abnormal returns (AR) and Cumulative Abnormal Returns are computed using the following model:

$$AR_{it} = R_{it} - (\hat{\alpha}_i + \hat{\beta}_i R_{mt})$$

$$CAR_{it} = \frac{1}{N} \sum_{t=1}^{t=I} AR_{it}$$

Where:

AR_{it} is the abnormal return for firm i on day t, R_{mt} is the market return on IDX composite index on day t, R_{it} is the security return for firm *i* on day *t,* $\hat{\alpha}_i$ and $\hat{\beta}_i$ are the OLS estimates of market model parameters for firm i, CAR_{it} is the Cumulative Abnormal Return for firm *i*, *I* is the number of days in the event widow, and *N* is the total number of observation.

</table>

4.5 **Corporate Governance**

THE ROLE OF CORPORATE GOVERNANCE IN CONTROLLING RELATED PARTY TRANSACTION

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Abstract

The objective of this study is to investigate whether Corporate Governance (CG) components (rights of shareholders, equitable treatment of shareholders, disclosure and tranparency, responsibilities of the board), proportion of ownership by majority shareholders, and financial leverage affect the probability of the occurence of related party transaction that a priori is expected to expropriate wealth of minority shareholders (RPTE). The study finds that the probability of the occurence of RPTE is reduced as a. board is more effective in performing its responsibility, b. the treatment of shareholders is more equitable, and c. the proportion of ownership by majority shareholders increases. However, the study finds that financial leverage as a measure of external monitoring does not affect the probability of the occurrence of RPTE.

Keywords: Related Party Transaction, Corporate Governance, Majority Shareholders, Financial Leverage, Expropriation

1. Introduction

Directors and internal corporate parties are responsible to conduct firm's affairs to maximize shareholder wealth. In some cases they arrange transactions with their families, majority shareholder, subsidiaries, or corporate affiliates. These transactions are called related party transaction (RPT). The definition of RPT in Indonesia, according to Pernyataan Standar Akuntansi Keuangan or PSAK (Indonesian Statement of Financial Accounting Standard) no 7 regarding RPT, is the same as the definition of RPT under International Accounting Standard (IAS) 24, i.e., "... *a transfer of resources, services, or obligations between related parties, regardless of whether a price is charged.*" (IAS 24, par. 9).

RPT can have a positive or negative impact on firm performance (McCahery and Vermeulen). Indeed, there are many examples of related party transactions that provide benefits for companies. For example, trade and foreign investment is often facilitated by inter-company financing transactions. Lower costs of capital and transaction costs provide a strong incentive for engaging in these transactions. However, related party transactions might not be undertaken at arm's length transactions and can be influenced by the relationship between the parties engaging in the transaction. Thus, there is a conflict of interest for some person in the company. For both controlling shareholders and insiders such as management, RPT can be the mechanism for expropriating wealth of non-controlling shareholders.

This point of view is supported by two opposing hypothesis stated by Gordon, Henry and Palia (2003). The conflict of interest hypothesis suggests that RPT is a transaction that a priori is to expropriate wealth from non-controlling shareholders. On the other hand, the efficient transaction hypothesis proposes that RPT efficiently fulfill underlying economic needs of the company. Since RPT may yield either benefits or costs to companies, it is important to empirically investigate some determinants that affect the probability of the occurrence of RPT that a priori to expropriate wealth from non-controlling shareholders (RPTE). The study proposes internal and external determinants: the internal determinants are corporate governance practice and ownership structure while the external determinant is the monitoring of creditors.

Corporate governance (CG) issues arise because of asymmetric information problems between principals and agents and self-interest behavior in the part of agents, resulting agents expropriating wealth from the principals. Examples of

principals-agents conflicts are conflicts between shareholders – managers, controlling shareholders – non-controlling shareholders, creditors – managers. CG as a company internal control mechanism should positively affect the efficiency and effectiveness of transactions undertaken by the company for the interest of the company. The *OECD Principles of Corporate Governance* suggested by OECD (2006) provides specific guidance for policymakers, regulators and market participants in improving the legal, institutional and regulatory framework that underpins corporate governance. These principles are:

1. The protection and facilitation of rights of shareholders and key ownership functions.

2. The equitable treatment of shareholders, including the opportunity to obtain effective redress for violation of their rights.

3. Recognizing the rights of stakeholders and active co-operation between corporations and stakeholders in creating wealth, jobs, and the sustainability of financially sound enterprises.

4. Timely and accurate disclosure and transparency on all material matters regarding the corporation.

5. The responsibilities of the board, including the strategic guidance of the company, the effective monitoring of management by the board, and the board's accountability to the company and the shareholders.

The study employs the first, second, fourth, and fifth principles as the proxy of CG. Principle three concerns with the role of stakeholders and thus is not related to protecting non-controlling shareholders from wealth expropriation; therefore, CG practice in connection with principle three is not included in the measure of CG in the

1397

study. On the other hand, the other four principles directly contribute to the protection of the non-controlling shareholders' wealth that could be affected by RPT.

The study provides the following three contributions to existing literature. First, the study employs samples that comprehensively consist of all types of corporate actions. Previous studies related to RPT in Indonesia cover only certain types of corporate actions. For example, Masuroh (2000) includes only mergers and acquisitions while Utama (2006) includes investment decisions. Further, our study separates this sample into RPT which a priori to expropriate and which are not, while other studies in Indonesia do not distinguish them.

Second, the study investigates whether the monitoring mechanism, internal and external, affects the probability of RPTE. The internal monitoring mechanism is CG practice while the external monitoring mechanism is the monitoring by creditors, proxied by the level of leverage. Because these two control mechanisms are set to assure that companies always maximize shareholder wealth, then the study expect these variables negatively affect the probability of RPTE.

Third, the study investigates the association of proportion of majority ownership with the probability of RPTE. Higher proportion of majority ownership makes it easier for the majority shareholder to engage in RPT. Because there are two opposing hypotheses about the impact of RPT on firm value, then for high majority ownership relative to low majority ownership, the study expects that the variable could affect the probability of RPTE either way, depending on which intention (efficiency or expropriation) that dominates.

Based on our empirical tests, we find the following major set of results. First, we find that the responsibility of the board negatively affects the probability of RPTE: the more effective and accountable the board in performing its duties, the less likely is the probability of RPT that a priori expropriate to occur. We also find that equitable treatment of shareholders negatively affects the probability of RPTE: the more equitable a firm in handling its shareholders, the less likely is the probability of RPT that a priori expropriate to occur. Second, this study also finds that proportion of majority ownership negatively affects the probability of RPT that a priori expropriate occur. This finding means that higher proportion of majority ownership results in a less likelihood of a firm to conduct RPT that a priori expropriate. Third, we find that leverage does not affect the probability of RPTE, so it can be concluded that external monitoring in Indonesia from creditors are not yet effective in reducing the probability of RPT that a priori expropriate wealth of minority shareholders.

The remainder of the paper proceeds as follows: Section 2 describes about the nature and type of RPT. In section 3 we summarize reporting requirement and regulation for RPT in Indonesia. The research design of this study is described in section 4 while the analysis and result are presented in section 5. Finally, section 7 provides conclusion.

2. The Nature and Type of Related Party Transaction (RPT)

RPT is a transaction that could be a priori to expropriate and could benefiting the minority shareholders. The study by Gordon, Henry, and Palia (2003) state two hypotheses about the nature of RPT. The first hypothesis is the conflict of interest hypothesis, stating that RPT is transaction that a priori to expropriate the minority

shareholders. Generally this RPT occurs on a firm that have a weak corporate governance machanism, and this firm usually have lower adjusted stock return. The opinion that RPT represents a conflict of interest is consistent with agency issues similar to those considered by Berle and Means (1932) and Jensen and Meckling (1976) about agency problem between manager and shareholders, and between majority and minority shareholders. The second hypothesis is efficient transaction hypothesis, which states that RPT efficiently could fulfill economic needs of a company (decreasing transaction cost). For example, giving compensation and fringe benefits for directors, because the directors have skill that useful for a firm.

Moreover, Ryngaert and Thomas (2007) state that though RPT can be abused to expropriate wealth, it also has some benefits, such as a contract with related party could provide rapid activity coordination and feedback and could overcome financial distress that a firm might have (e.g. by providing loan with a lower rate).

Consistent with argument that RPT could expropriate and benefiting the minority shareholders, Cheung, Rau and Stouraitis (2006) investigate the relationship between RPT and excess return during corporate action announcements and classify RPT into three categories. First, transactions that are a priori likely to result in expropriation of a listed firm's minority shareholders. These involve acquisitions of assets by the listed company from connected parties, asset sales by the listed firm to connected parties, sales of equity stakes in the listed company to connected parties, trading relationships between the listed firm and connected parties, and direct cash payments or loan guarantees from the listed firm to a connected party. Second, transactions likely to benefit the listed firm's minority shareholders, such as cash receipts by the listed company and transactions between the listed firm and its subsidiaries. Third, transactions that could have strategic rationales and perhaps are

not expropriation, such as takeover offers in which the connected party is another publicly listed or foreign company and formation of joint ventures, acquisitions of joint venture stakes from the remaining partners, and sales of joint venture stakes to the remaining partners. In the latter two cases, the connected party is the joint venture partner in its capacity as subsidiary shareholder. Their study finds that excess return in connected transactions are negative, consistent with the conflict of interest hypothesis.

3. Regulation and Disclosure Requirement for RPT in Indonesia

The following provides brief description regarding regulation on RPT in Indonesia, concluded from Utama (2008). The new Corporation Law (Undang Undang No. 40 2007) states that the Supervisory Board (SB) and the Board of Directors (BOD) shall perform their duties for the best interest of the company. Further, it also requires that the decision regarding RPT is made by parties that are involved with the transaction. There is no such requirement in the former corporation law. In addition, the Capital Market Law, which is further detailed in Badan Pengawas Pasar Modal - Lembaga Keuangan or Bapepam-LK Rule[242], requires certain transactions containing conflict of interest have to be approved by independent or minority shareholders. According to the Corporation Law, shareholders with cumulative 10% voting rights may ask for General Shareholders Meeting to express their concerns or to ask certain information/ questions. Shareholders may also file lawsuit against a company, BOD, or SB if they suffer loss as a result of negligence/misconduct by the company/BOD/BOC. Based on the existing laws and rules, especially after the enactment of the new corporation law, in general rules and regulation concerning RPT in Indonesia are relatively adequate.

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[242] Bapepam-LK is the Indonesian Capital Market and Financial Institutions Supervisory Body.

Enforcing and implementing the laws and the rules are quite a challenge. The Corporation Law is just issued in August 2007, thus the enforcement and implementation of the Law remain to be seen. Further, with regard to Bapepam-LK's requirement of independent shareholders' approval for certain RPT, in practice only few RPTs (about 10 transactions per year during 2001 – 2007) obtain approval from minority shareholders. Thus, before 2007, the majority of RPT were unchecked by parties independent to the transaction, except if a firm voluntarily establishes such policy. Even though shareholders may file a lawsuit against a company/BOD/BOC, in practice it is difficult to do, possibly due to requirement of having at least 10% voting shares and/or due to the lengthy and inefficient judicial process.

The following explains the disclosure requirement regarding PRT for public companies in Indonesia. Public companies have to disclose their RPTs in the financial statements semi-annually in accordance with the Indonesian Accounting Standard and Bapepam Rule VIII.G.7. The Bapepam disclosure requirement is quite detail, e.g., disclosing the amount of assets, liabilities, sales, and expenses arising from RPT, disclosing the parties involved in RPT and their relationship with a firm for transactions above USD 100,000, and disclosing that the price and term of transactions are in accordance with arms' length transactions. Conflict of interest transactions requiring approval of independent shareholders also have to be disclosed in detail to the public while other conflict of interest transactions have to be reported to Bapepam-LK. Information that should be disclosed are:

- Explanation about the transaction: transaction value, related parties, and the nature of the conflict of interest.
- Report from independent party about the transaction.

- Confirmation about the transaction relative to the same transaction which does not contain conflict of interest.

- Statement from SB and BOD that all material information is being disclosed truthfully.

- Report from an expert or independent consultant, if it is required by Bapepam LK.

In addition to PSAK and Bapepam-LK rules about RPT, public firms are also required to disclose material information about events that could affect stock price or investors decision, not more than two days after the events appear (Bapepam LK X. K. 1 rules). The events include RPT and others like merger/acquisition, stock split/dividend, significant new product/innovations, significant changes on management, etc. Bapepam IX. E. 2 rule about material transactions requires that if a firm plans to conduct material transaction, then it has to be announced to public, not more than 28 days before shareholders meeting that will approve or refute that plan.

From the above explanation, our study concludes that before the enactment of the new corporation law in 2007, regulations regarding control mechanism to prevent abusive RPT are relatively weak since approval process other than from independent shareholders is not regulated. The disclosure requirement in financial statements, however, is relatively adequate since firms have to provide detail information regarding RPT. Disclosure requirement regarding material transactions (including RPT) is also adequate since companies have to publish detail information regarding the transaction.

4. Hypothesis and Research Design

4.1 Hypothesis

In this study we employ a logistic regression to investigate the effect of CG practice, proportion of majority ownership, and financial leverage on the probability of RPT that a priori to expropriate occur. The dependent variable of this study is a dummy variable of RPT that taking a value of one if the RPT is a priori to expropriate, and else zero.

The monitoring mechanism that we employ to investigate their impact on the probability of RPTE is CG components (as internal monitoring mechanism) and financial leverage (as external monitoring mechanism). We utilize the following CG components: rights of shareholders and key ownership functions, equitable treatment of shareholders, disclosure and transparency, and the responsibilities of the board and examine whether these components could reduce the probability of RPTE. Gordon (2003) investigates the relationship between RPT and CG mechanism (like board characteristics, CEO par performance sensitivity, and external monitoring) and finds that weaker CG mechanism being associated with more dollar amount RPT. Moreover, a study by Kohlbeck and Mayhew (2004) find that board of director's independency (i.e., strong CG) is associated with lower amount of RPT, and if RPT occurs, this transaction tends to be transparently publicized. Consistent with their views and findings, we hypothesize that better practice of CG associates with lower occurrence of RPTE.

We apply the same logic of the influence of CG practice to financial leverage, i.e., if external monitoring is high, then the probability of RPT that a priori to expropriate will be low. Gordon et al. (2003) make use of financial leverage as a proxy for external monitoring, i.e., higher financial leverage positively associates with more intensive external monitoring. An external institution (e.g., a bank) that provides loan to a

company will monitor activities of the firm, and it will refute something (such as abusive RPT) that could decrease the firm's value. Consistent with the expectation, their study finds that higher leverage associates with lower occurrence of RPT. Kohlbeck and Mayhew (2004) also use financial leverage as a proxy for external monitoring of a firm, applying the same argument as Gordon (2003). However, they find no relationship between leverage and the probability of RPT that a priori to expropriate occur. Based on Gordon et al (2003) argument, we hypothesize that higher financial leverage reduces the likelihood of RPTE.

Capulong et al. (2000) state that there are two possible impact of concentrated ownership. First, the majority shareholder could play monitoring role against management, or it could be that the majority shareholder use his or her ownership to conduct RPT. Thus, if the ownership on the firm is concentrated, then it would be easier for firm to conduct RPT, including abusive RPT. However, higher proportion of majority of ownership may also trigger more oversight from the regulator that is aware of higher likelihood of conducting RPT for firms with more concentrated ownership. In addition, higher ownership implies that majority shareholders' share of loss due to expropriation is also higher, making it less likely for them to conduct abusive RPT. Further, because RPT has two conflicting impact (it could be employed to expropriate or to provide benefit), then we make no prediction with regard to the effect of proportion of majority shareholders' ownership on the probability of RPT that a priori to expropriate.

4.2 Empirical Model

The following two models are employed to test the hypothesis:

Dummy $RPT_{mt} = \gamma_0 + \gamma_1 RiS + \gamma_2 EtS + \gamma_3 DT + \gamma_4 ResB + \gamma_5 PROP + \gamma_6 LEV + \gamma_7 SIZE$

Dummy RPTmt = $\delta_0 + \delta_1 TotCG + \delta_5 PROP + \delta_3 LEV + \delta_4 SIZE$

Where:

Dummy RPT$_{mt}$ = value 1 if RPT is a priori to expropriate, else zero,

RiS   = Rights of shareholders,

EtS   = Equitable treatment of shareholders,

DT   = Disclosure and transparency,

ResB   = Responsibility of the board,

PROP   = Majority shareholders ownership,

LEV   = Financial leverage,

SIZE   = Market capitalization,

TotCG   = total CG scores.

In the second model, we employ Total CG which comprises of the four principles of CG. Size is utilized as a control variable.

4.3. Sample Selection and Data Collection

Announcements on corporate action are used to collect RPT sample based on the seven types of corporate announcements: General Meeting of Shareholders (GMS), Results of GMS, Merger and Acquisition, Issuance of Shares, Advertisement of Summary of Prospectus, Material Transactions, Takeover Offer. These announcements usually state that the parties with whom firms conducting transaction are their subsidiaries, shareholders, affiliated firms, parties who have conflict of interest, and management. If on the announcement there is no information about the relationship, then we explore this relationship in the firm's notes to financial statements. Our initial samples of RPT are 216 samples. Because the same transaction could be announced in a different corporate action, then we treat

them as one unit sample. We also eliminate sample based on data availability. Our final samples of RPT are 163 samples.

This RPT sample is classified based on three classification categories of Cheung et al (2006). However, in this study, we put the third category into the second category, which is RPT that could benefit the minority shareholders. Table 1 provides a description of the sample composition. Sample of RPT that a priori to expropriate minority shareholder is 102 unit sample and sample of RPT that could benefit the minority shareholders is 61 unit sample. The majority RPTs are with subsidiaries which in most cases are not subject to independent shareholders' approval.

Table 1. Description of Sample Composition

Description	Number of Sample
RPT Sample Classification Based on The Relationship Between The Parties:	
1. Subsidiaries	95
2. Shareholders	19
3. Affiliated	22
4. Director and Management	13
5. Unidentified	<u>14</u>
Total	**163**
Sample of RPT that a priori to expropriate and RPT that a priori benefit minority shareholders:	
1. RPT that a priori to expropriate	
• Asset Acquisition	14
• Asset Sales	15
• Equity Sales	37
• Trading Relationships	3
• Cash Payment	32
• Unidentified, but conflict of interest	1
2. RPT that benefiting	
• Cash Received	15
• Subsidiaries Relationship	14
• Takeover and Joint Ventures offers	<u>32</u>
Total	**163**

5.2. Variable Measurement and Data Collection

Components corporate governance score, including rights of shareholders and key ownership functions, the equitable treatment of shareholders, disclosure and transparency, and the responsibilities of the board, are collected from Indonesian Institute for Corporate Directorship (IICD) that provides scores for CG components and total CG. The scores are based on an instrument of 117 items on which the rating for each item (poor, fair, and good) is based on public information disclosed by a firm (e.g., Annual Report, Financial Statements, Website, Corporate announcements, etc). Total CG score is obtained by adding all components' scores adjusted with their weight. The weight for each CG component: Rights of Shareholders (RIS) 20%, Equitable Treatment of Shareholders (ETS) 15%, Disclosure and Transparency (DT) 25%, and Responsibility of Board (RESB) 25% of total CG scores. We employ year 2005 scores as scores for year 2006 and 2007 due to availability of data.

We collect data for majority ownership proportion which is the largest ownership of the firm from information on notes of financial statement about ownership structure. Due to data availability, we do not calculate Cash-Flow Right and Control Right of the controlling shareholder. We calculate leverage using formula total debt divided by total debt plus total equity. Because we use leverage as a proxy of external monitoring, then the liabilities included on the leverage calculation are loans from banks, financial institutions, and other institutions that could monitor the firm. We exclude liabilities from related parties. Liabilities and equity data are collected from Balance Sheet. Size is measured by log of market capitalization (number of outstanding shares multiplied by security price) at the end of year. Data for security

1408

price and outstanding shares are collected from Bursa Efek Indonesia (BEI) or the Indonesian Stock Exchange.

5. Empirical Result and Analysis

5.1 Statistical Analysis

Table 2 provides statistics descriptive of variables employed by the study. Mean scores for RIS and RESB are 51.74% and 54.46%, suggesting that on average, in Indonesia protection of rights of shareholders is not yet adequate while the board is not yet effective in performing its responsibilities and accountability. Similarly, the average score of 68.1% for DT implies that there are rooms for improving the disclosure and transparency in Indonesia. Surprisingly, ETS appears to be well performed since the mean score of this component is 83.07%. However, examining the items under this component reveals that disclosures of some items are mandatory by Bapepam-LK and thus the scores for most firms are good. Further, only very few firms are sanctioned by Bapepam-LK in connection with violating rules related to ETS. On average, majority shareholders' ownership of the firms in Indonesia is 49.42%, meaning that ownership structure of listed firms is quite concentrated. The average financial leverage in Indonesia is quite high, with mean value of 41.33%.

Table 2
Statistical Descriptive

	DUMMYRPT	RIS	ETS	DT	RESB	PROP	LEV	SIZE
Mean	0.625767	0.517382	0.830673	0.680960	0.544576	0.494147	0.413265	27.42746
Median	1.000000	0.507246	0.833333	0.666667	0.523810	0.513400	0.444754	27.47437
Maximum	1.000000	0.62318	1.00000	0.91666	0.92063	0.97950	0.61060	32.3882

		8	0	7	5	0	7	6
Minimum	0.000000	0.449275	0.492754	0.468750	0.365079	0.074200	0.000000	18.55171
Std. Dev.	0.485416	0.040869	0.077985	0.105933	0.125802	0.224400	0.134257	2.331830
Skewness	-0.519779	0.454269	-1.692756	0.204363	0.700743	-0.101603	-2.216900	-0.541706
Kurtosis	1.270170	2.735605	7.297678	2.348591	2.618371	2.157793	7.364328	3.886681
Jarque-Bera	27.66240	6.080897	203.2864	4.016535	14.32908	5.097859	262.8778	13.31156
Probability	0.000001	0.047813	0.000000	0.134221	0.000774	0.078165	0.000000	0.001287
Sum	102.0000	84.33333	135.3998	110.9965	88.76587	80.54598	67.36214	4470.676
Sum Sq. Dev.	38.17178	0.270588	0.985225	1.817935	2.563836	8.157541	2.920048	880.8642
Observations	163	163	163	163	163	163	163	163

Table 3 provides the pearson correlation analysis among variables. As expected, correlations among CG components are all significantly positive. Firm size also is positively correlated with all CG components except Rights of Shareholders. Thus, larger firms tend to be governed better than small firms. ETS and REB have negative relationship with dummy RPT, supporting the hypothesis, although only ETS that is statistically significant. Other CG components (RIS and DT) have positive relationships with the probability of RPT that a priori to expropriate occur but they are significant. Relationship between majority ownership and dummy RPT is negative and significant on level 5% while Leverage has a positive relationship with dummy RPT but not significant.

Table 3
Pearson Correlation

	Dummy RPTmt	Prop	size	RiS	EtS	DT	ResB	Lev

Dummy RPTmt	Pearson Correlation	1	-,159(*)	-,092	,106	-,171(*)	,012	-,101	,083
	Sig. (2-tailed)		,044	,244	,178	,029	,878	,201	,293
	N	163	160	163	163	163	163	163	163
Prop	Pearson Correlation	-,159(*)	1	,051	,342(**)	,103	-,054	,069	-,129
	Sig. (2-tailed)	,044		,524	,000	,197	,500	,384	,104
	N	160	160	160	160	160	160	160	160
Insize	Pearson Correlation	-,092	,051	1	,078	,205(**)	,557(**)	,424(**)	,007
	Sig. (2-tailed)	,244	,524		,323	,009	,000	,000	,926
	N	163	160	163	163	163	163	163	163
RiS	Pearson Correlation	,106	,342(**)	,078	1	,527(**)	,178(*)	,231(**)	-,139
	Sig. (2-tailed)	,178	,000	,323		,000	,023	,003	,078
	N	163	160	163	163	163	163	163	163
EtS	Pearson Correlation	-,171(*)	,103	,205(**)	,527(**)	1	,130	,144	,050
	Sig. (2-tailed)	,029	,197	,009	,000		,097	,066	,526
	N	163	160	163	163	163	163	163	163
DT	Pearson Correlation	,012	-,054	,557(**)	,178(*)	,130	1	,604(**)	,040
	Sig. (2-tailed)	,878	,500	,000	,023	,097		,000	,609
	N	163	160	163	163	163	163	163	163
ResB	Pearson Correlation	-,101	,069	,424(**)	,231(**)	,144	,604(**)	1	-,061
	Sig. (2-tailed)	,201	,384	,000	,003	,066	,000		,438
	N	163	160	163	163	163	163	163	163
Lev	Pearson Correlation	,083	-,129	,007	-,139	,050	,040	-,061	1
	Sig. (2-tailed)	,293	,104	,926	,078	,526	,609	,438	
	N	163	160	163	163	163	163	163	163

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

5.2 Regression Result

In the first model, we use CG components as proxies of internal monitoring, and the results can be seen in Table 5.

Table 5
Regression of Determinants Affecting Probability of RPTE

Dependent Variable: Dummy RPTmt					
Method: ML – Binary Logit (Quadratic hill climbing)					
Sample: 1 – 163					
Variable	Coefficient	Std. Error	z - Statistic	Prob.	VIF
RIS	0.231129	1.010041	0.228831	0.4095	1.618445
ETS	-3.535646	3.039755	-1.163135	0.1224	1.608769
DT	2.975157	2.287771	1.300461	0.0967	1.966186
RESB	-2.388398	1.769147	-1.350028	0.0885	1.730433
PROP	-1.122747	0.770095	-1.457933	0.1449	1.044129
LEV	1.200784	1.269641	0.945767	0.1722	1.041111
SIZE	-0.084824	0.090161	-0.940806	0.3468	1.521063
C	5.013984	2.912212	1.721710	0.0851	
McFadden R-squared	0.062918				
LR Statistic	13.56144				
Prob (LR statistic)	0.059555				

We find that RESB is significantly negative affecting the probability of RPTE at 90% confidence level. This finding confirms the hypothesis that the more responsible and accountable the board is then the lower is the probability occurrence of RPT that a priori to expropriate. Thus, responsible and accountable board will control and manage potential conflict of interest between a firm and management, directors or controlling shareholders. As expected, the coefficient for Equitable Treatment of Shareholders (ETS) is negative, but it is only marginally significant at 85% confidence level. Protection of shareholders rights (RIS) does not affect the probability of RPTE. The possible reason

for this insignificant result is that this principle concerns with shareholders rights in general, including controlling shareholders right, while monitoring of RPT primarily is to protect the rights of non-controlling shareholders. Contrary to the expectation, Disclosure and Transparency (DT) is significantly positive affecting the probability of RPT that a priori to expropriate occur, meaning that the more firms disclose their activities then the higher probability that the firm will engage the RPT that a priori to expropriate. The reason for this opposite finding might be that if RPT is a priori to expropriate, then the firm will be required to disclose more detailed about the RPT that they're engage. As shown in Table 1, RPTs that involve cash received, subsidiaries relation, and joint venture are those a priori to benefit a company, while these types of transactions that require less disclosure requirement.

Proportion of Majority Ownership (PROP) marginally has a negative influence on the probability of RPTE. The result implies that firms with higher ownership of controlling shareholders tend to engage in more beneficial RPT. On the other hand, Financial Leverage (LEV) does not significantly affect the probability of RPTE. Thus, in Indonesia, monitoring role from external parties is not yet effective in reducing the probability of RPT a priori to expropriate to occur.

In the second model we use Total CG as the proxy for internal monitoring and the results are shown in Table 6.

Table 6
Regression Total CG

Dependent Variable: Dummy RPTmt				
Method: ML – Binary Logit (Quadratic hill climbing)				
Sample: 1 – 163				
Variable	Coefficient	Std. Error	z – Statistic	Prob.
TOTAL CG	-2.021187	3.463304	-0.583601	0.27975
PROP	-1.482867	0.749420	-1.978685	0.0479
LEV	1.068480	1.209749	0.883224	0.18855
SIZE	-0.049142	0.087342	-0.562637	0.5737
C	3.253544	2.128624	1.528473	0.1264
McFadden R-squared	0.031200			
LR Statistic	6.724789			
Prob (LR statistic)	0.151167			

The second regression shows that TOTAL CG has no relation with the probability of RPTE. This finding confirms our expectation that to examine the influence of CG practice to the probability of RPTE, we must employ more specific components of CG practice. The finding for Proportion of Majority Ownership (PROP) is consistent with the previous regression, i.e., this variable is significantly negative affecting the probability of RPTE. Thus, more concentrated ownership does not necessarily mean that the majority shareholder will engage in RPT that a priori to expropriate the minority shareholders. The results for Financial Leverage and Size are not significant, consistent with the first regression.

The correlation analysis in Table 3 shows that the CG components are correlated to each other. To investigate the impact of each component without taking into account other components, next we regress these variables independently. The result were shown on table 7 below.

Table 7. Regression Results with CG Components Run Separately

Variable	Dummy RPT$_{mt}$			
RIS	0.239203 (0.3678)			
ETS		-4.706522 (0.0345)		
DT			1.503110 (0.2203)	
RESB				-1.083681 (0.2269)
PROP	-1.332771 (0.0389)	-1.311229 (0.0416)	-1.392671 (0.03185)	-1.441447 (0.0268)
LEV	1.323385 (0.1456)	1.212428 (0.1632)	1.035162 (0.1966)	1.010196 (0.2023)
SIZE	-0.088542 (0.2274)	-0.048019 (0.5162)	-0.120315 (0.1936)	-0.052585 (0.5087)
C	2.916726 (0.1676)	5.928005 (0.0267)	3.073507 (0.1494)	2.862002 (0.1663)
McFadden R-squared	0.043647	0.047158	0.032426	0.032223
LR Statistic	9.407810	10.16452	6.989102	6.945399
Prob (LR statistic)	0.051676	0.037746	0.136465	0.138802

When regressed separately, the findings are that CG components i.e., RIS, DT, and RESB are not significantly affecting the probability of RPTE. However, ETS is significantly and negatively affecting the probability of RPTE. This result supports the hypothesis that more equitable treatment of shareholders reduces the probability of wealth expropriation through RPT.

6. Conclusion

RPT can be employed to benefit a firm or to expropriate wealth of minority shareholders. We investigate determinants that could affect the type of RPT. The determinants are

internal and external monitoring mechanism as well as ownership by majority shareholders.

We find that a. a responsible and accountable board and b. more equitable treatment of shareholders could reduce the probability of RPT a priori being used to expropriate wealth of minority shareholders. Protection of shareholders rights does not have any influence on the type of RPT conducted while contrary to expectation, higher disclosure level associates with more RPT that a priori is to expropriate. The reason for this finding might be that if RPT is a priori to expropriate, then firms are required to provide more disclosure about the RPT that they're engage. Further, we document that CG practice as a whole does not affect the probability of RPT a priori being employed to expropriate. This finding implies that to examine the influence of CG practice to the probability of an a priori abusive RPT, researcher must employ more specific components of CG practice.

For external monitoring role for RPT we find that Financial Leverage does not significantly affect the probability of the occurrence of RPT a priori to expropriate. Therefore, in Indonesia, monitoring role from external parties is not yet effective in reducing the probability of RPT a priori to expropriate to occur. Finally we find that proportion of majority ownership reduces the possibility of an a priori abusive RPT. The result implies that firms with higher ownership of controlling shareholders tend to engage in more beneficial RPT. Their higher stakes at the company may reduce their incentive to engage in activities (such as RPT) that cause loss to the company.

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1416

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THE INFLUENCE OF BOARD AND OWNERSHIP STRUCTURE ON PAY PERFORMANCE BASED AND NON-PAY PERFORMANCE BASED COMPANIES IN MALAYSIA

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Abstract: We examine the influence of board and ownership structure on pay performance based and non-pay performance based of 158 companies listed on Bursa Malaysia for years 2003 to 2005. The results reveal that there is a significant difference of mean between companies which assert that their pay is linked to performance or otherwise. Among the variables are institutional shareholder, board score, and remuneration score, return on asset, return on performance, total asset and total debt. Furthermore, this study finds that adoption of pay-for performance as recommended by the Code is influence by ownership structure in particular the percentage of managerial ownership, local institutional ownership and foreign ownership. On the aspect board characteristics, remuneration score seems to show a strong influence on the adoption while board score is insignificant.

Introduction

Executive remuneration has become one of the most significant issues in contemporary corporate governance (Hill, 2006)[243]. Central to the debate is whether an exorbitant pay to executive directors is justified given the economic performance of the company involved. Some shareholders are of the opinion that executive directors are

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[243] This issue has been long criticized and one of the topics that caught the attention of business magazines and alike in-developed countries especially US (Jensen and Murphy, 2004). Besides, Dalton and Dalton (2005) note that up to this date, this is one of the favorite topics being studied in corporate governance discipline. Murphy (1999) claimed that CEO remuneration research has grown even faster than CEO paychecks, skyrocketing from one to two papers per year prior to 1985 to 60 papers in 1995. In addition, Barkema and Gomez-Mejia (1998) and Gomez-Mejia and Wiseman (1997) assert that this issue has been studied 70 years ago and is still debated till today due to the mixed result of the relationship. They claim that a total of more than 300 studies on remuneration have been accumulated during the years.

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overpaid compared to their contributions to the companies and excessive remuneration ultimately comes out of the shareholders' pocket. The perception that directors are excessively paid is also shared by the Malaysian public particularly the shareholders. Latest news and cases highlighted in Malaysian business magazines continues to attract attention on the issue of excessive pay[244].

The absence of strong link between pay and performance as evidenced by previous studies (i.e. Jensen and Murphy, 1990) indicated that the incentive mechanism (i.e. remuneration) on its own does not effective in aligning the interest of shareholders and executives. It is difficult to deny the importance of incentive mechanism in motivating and retaining talented executives or terminating bad executives. Thus, in ensuring that incentive mechanism really works as what is expected by shareholders, agency theorists suggested on integration of incentive mechanism and other governance mechanisms such as board of director and ownership structure. However, to what extent can the shareholders rely on the board particularly the remuneration committee to act on their behalf? The situation is worst when the executives who are family members sit on the remuneration committee.

Recent developments in corporate governance particularly executive remuneration have heightened the need to study this issue comprehensively and

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[244] Transmile Group, the air cargo carrier, attracted attention in the early part of 2007 when its external auditor Deloitte & Touche blew the whistle after discovering irregularities in prior years' audited financial statements, involving unsubstantiated sales of more than RM600 million from 2004 to 2006. Subsequently, Transmile Group restated its financial statements from a profit of RM158 million to a loss of RM126 million for the year ended December 2006. In July and November 2007, its former CEO, CFO and two non-executive directors were charged in court with abetting the company in providing misleading financial statements. At the AGM held in September 2007, more than two third of the shareholders voted against the payment of director fees for 2006 totalling RM145, 000. The non-executive Chairman of Transmile Group, who is an ex-Transport Minister, resigned shortly before the said AGM. He joined the board of Transmile Group in 2004 when the Kuok Group emerged as a new controlling shareholder.

systematically. Furthermore, Denis and McConnell (2003) claim that for many countries in the world there is only limited empirical evidence regarding issues related to the effectiveness of boards of directors and of the compensation plans, they put in place; for some there is no evidence at all. These are useful avenue for further research. In addition, boards of directors and executive remuneration cannot be viewed in isolation. The interrelationship between board composition, executive compensation, and other corporate governance mechanisms remains a fruitful area for research worldwide.

In this context, Malaysia provides a unique setting in exploring the issues of executive remuneration and corporate governance. Following the introduction of the voluntary Malaysian Code on Corporate Governance (thereafter is referred as the Code) in 2000, companies listed on Bursa Malaysia are required to make public the Statement of Corporate Governance incorporating disclosure on directors' remuneration. The Code emphasizes the following principles on directors' remuneration. First, in the case of executive directors, remuneration should be structured so as to link rewards to corporate and individual performance. Second, companies should establish a formal and transparent procedure for developing policy on executive remuneration and for fixing the remuneration packages of individual directors. And third, company's annual report should contain details of the remuneration of each director. Under best practices in corporate governance, the Code recommends companies to establish a remuneration committee consisting of wholly or mainly of non-executive directors. The committee will monitor, supervise and advice the

board's decision regarding executive remuneration. The committee is allowed to get an advice from consultant relating to executive directors' remuneration and recommend to the board an appropriate remuneration for the executive directors. Hence, specifically, this study attempts to examine the influence of board and ownership structure on companies which assert that their pay is based on performance as compared to companies which are non-pay performance based.

Incentive pay

Incentive pay or pay-for-performance has long been used in aligning the interest of shareholder and manager. The pay-for-performance model is based on agency theory which works on the basis of how to structure the contractual relation (including remuneration incentives) between the principal and agent to provide appropriate incentives for the agent to make choices which will maximize the principal's welfare, given that uncertainty and imperfect monitoring exist (Jensen and Meckling, 1976). In this relationship, shareholder expects the executive to put their greatest effort to maximize firm value, which in turn increases the shareholder's wealth. In doing so, the executive in return also expects rewards, which is worth their effort. Thus, based on that argument, agency theory posits that aligning remuneration and performance is the optimum solution in satisfying the interest of the principal and agent. Further to the point, number of researchers (e.g., Gibbon and Murphy, 1990; Jensen and Murphy, 1990a and Gregg et al., 1993) suggest that reward for the agent is dependent on a variable that the principal is interested in, such as shareholders' returns. The shareholders' returns depend largely on the performance of the company under the

agent or executive's management. The above explanation provides rationale for linking the executive remuneration and company performance.

Board Structure

The important of good corporate governance in monitoring the optimal contract between shareholder and manager has long being raised by Jensen and Meckling (1976). They argue that wages by itself does not necessarily promote decision-making that enhances value for shareholders. They further argue that agency cost could be minimized by means of a variety of governance structures, which reduce the scope for managerial discretion. Among the elements of structure are incentive, board of director and ownership collectively known as internal mechanism. Company is considered as a better govern company if the company has a large shareholders, split role of chairman and CEO, low CEO tenure, small board sizes, and boards composed with majority of outside directors Jensen (1993), Core et al. (1999) and Bertrand and Mullainathan (2001). Here, particularly the board of director functions as an information system those stockholders within large corporations could use to monitor the opportunism of top executives. Information systems inform the principal about what the agent is actually doing that they are likely to restrain agent opportunism as the agent becomes conscious that he or she cannot mislead the principal.

In relation to above suggestions, Fama and Jensen (1983a) propose that decision management (initiation of decisions and implementation of ratified

decisions) and decision control (ratification and monitoring of decisions) should be separated and diffused across agents. They suggest three devices for separating decision management and decision control. In brief, the devices are decision hierarchies, functions of board of directors and incentive structures that encourages mutual monitoring among decision agents. They also suggest that within the context of agency theory, employment contracts are important means by which the principal and/or their representatives, non-executive directors can control the activities of the agents.

However, there are arguments that perceived board as does not acting at arm's length in selecting the compensation arrangement that maximizes shareholder value (Bebchuk et al. 2002 & 2004). The managerial power proponents argue that managers influence the appointment of independent directors, which in many cases enables them to block the appointment of directors who are likely to try to bargain with the managers at arm's length. Second, once appointed, independent directors are influence by board dynamics that make it difficult for them to deal with managers in a truly arm's length way, especially if other directors have no interest in confronting the managers over their pay. Finally, even if directors were otherwise inclined to challenge managers on the issue of executive compensation, they would likely have neither the financial incentive nor sufficient information to do so.

The functions of board as what being raised and recommended by Jensen and Meckling (1976) and Fama and Jensen (1983a) has been formalized in 1992 with

the introduction of Cadbury Report in UK (Mallin, 2004). Many countries including Malaysia follow suits the implementation of the report recommendations. The Code clearly highlights on the important of having an effective and efficient board in monitoring the activities of managers in running the company. The Code focuses on board responsibilities, composition and structure in enhancing the board effectiveness and efficiency. In addition to that, the Code specifically emphasizes on director remuneration and the establishment of remuneration committee in handling matters related to director remuneration. Jensen and Murphy (2004) propose a number of recommendations particularly on the roles and functions of remuneration committee in pay-setting process. Among the recommendation are remuneration committees must take full control of the remuneration process, policies and practices, the committees should employ their own professional contracting agents when hiring new top-level managers. With the issuance of the Code, board of director is expected to be more efficient and effective in monitoring the executives particularly in the issue of executive remuneration which might reflect whether the executive being rewards based on their performance as expected by the shareholder.

Ownership Structure

In addition to board effectiveness, ownership structure is also important in aligning the interest of shareholders and executives from an agency theory perspective (Jensen and Meckling, 1976; Fama and Jensen, 1983a; Jensen and

Murphy, 1990b and Hart, 1995). Agency theorists (Jensen and Meckling, 1976; Fama and Jensen, 1983a; and Jensen and Murphy, 1990b) argue that the provision of ownership rights reduces the incentive for agents' adverse selection and moral hazard since it makes their compensation dependent on their performance. They further argue that stock ownership by management in particular could reduce agency problems. As their stakes rise, managers pay a larger share of agency costs and, therefore, are less likely to expropriate wealth from other stockholders. Moreover, as the owner-executive's portion of the equity decreases, his incentive to devote significant effort to creative activities such as searching out new profitable ventures falls. He may in fact avoid such ventures simply because it requires too much trouble or effort on his part to manage or to learn about new technologies. Avoidance of these personal costs and the anxieties that go with them also represent a source of on-the-job utility to him and it can result in the value of the firm being substantially lower than it otherwise could be. Their argument is evidence by numbers of studies below.

Numbers of studies in US (Lambert et al., 1993; Core et al., 1999 and Brick et al., 2006) find that CEO compensation is lower when the CEO's ownership is higher. Similarly, study in UK by Ozkan (2007b) and Australia by Chalmers et al. (2006) also show that level of CEO pay is negatively associated to percentage of share own by the CEO. On the other aspect, Mehran (1995) on US data reveals that companies with higher percentage shares held by inside use less equity-based remuneration. However, there are studies in US show that

managers did entrench from shareholder when they hold a significant share in the company (Holderness and Sheehan, 1988; Zingales, 1995; Wan, 2004 and Stammerjohan 2004).

For the last few years, there is a growing literature that looks at the association between managerial ownership and remuneration in countries with high family ownership. Firth et al. (1999), using Hong Kong data, show that family group of companies are associated with lower compensation level. Another study on Hong Kong data by Cheng and Firth (2005) also finds that director's ownership moderate top management remuneration. Both studies suggested that this might be due to the lesser need of direct cash remuneration since the directors receive their rewards by means of dividends and capital appreciation.

Further to the discussion, Hart (1995) suggests that one way to improve corporate governance is by having a large shareholder. The large shareholder who might turn out to be the controlling shareholder is important as a mechanism in mitigating agency problem. Large or controlling shareholder could be institutions, individual/families, states or other corporations either financial or non-financial (Denis and McConnell, 2003 and Claessens et al., 1999a&b). Hart (1995) further argues that, in the case where a large shareholder owns less than 100% of the company, agency problems may be reduced, but they are not limited. First, a large shareholder will still underperform monitoring and intervention activities since he does not receive 100% of the gains. Second, a large

1426

shareholder may use his (voting) power to improve his own position at the expense of other shareholders. Finally, the large shareholder may simply become management, i.e. he may run the company himself. In addition, Alchian and Demsetz (1972) argue that controlling shareholder is important since the information asymmetry between controlling shareholders and managers may be reduced since controlling shareholders are likely to be actively engaged on the board of directors.

Numbers of studies evidence that institutional shareholder plays an importance role in a family concentrated ownership as well by dispersing ownership and control of the family in a company (Ozkan,2007b; Cheng and Firth, 2005; Khan et al., 2005; Hartzell and Starks, 2003 and Firth et al., 1999)). Their results suggest that the institutional serve a monitoring role in mitigating the agency problem between shareholders and executives. In addition, Core et al*.,* 1999 and Cordeiro and Veliyath, 2003) show a negative effect of block holders holding more than 5% of the outstanding shares with remuneration. In the case of Malaysia, this study expects that ownership structure in particular the managerial ownership might influence the pay-performance relationship. This is because significant portion of Malaysian companies as other East Asian countries are control by family (Claessens et al., 2000a&b).

Sample and data

The executive remuneration, board characteristics and ownership data are taken from the annual reports of the selected Bursa Malaysia listed companies for years 2003 to 2005. The 2003-2005 periods is chosen because the disclosures as required under the MCCG are effective for annual reports after June 2001. As at January 2006, slightly over 1,000 companies were listed on Bursa Malaysia comprising 646 on Main Board, 269 on Second Board and 110 on MESDAQ[245]. This study excludes MESDAQ, PN4[246] and PN17[247] companies. MESDAQ companies are excluded since their issued and paid-up capital is considered small compared to companies on Main and Second Boards[248]. In addition, PN4 and PN17 companies are excluded due to their adverse financial conditions.

Out of the 876 remaining companies, a further 409 companies are eliminated due to changes of financial year end, de-listing, incomplete annual

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[245] The MESDAQ market was created in March, 2002 as a unique market with a separate identity from the Bursa Malaysia Main and Second Boards, specifically for the capital-raising needs of technology and high-growth potential companies. The minimum paid up capital is RM2 million for technology and non-technology companies, and a minimum of RM20 million for technology incubator companies.

[246] PN4 companies are companies which failed to meet the criteria set out under the Bursa Malaysia's "Practice Note No. 04/2001" as follows:

   v.   The company failed to report the deficit in its combined shareholders funds;
   vi.   Receivers or Managers have been appointed to manage the asset of the relevant company / its subsidiaries properties / associate companies;
   vii. Auditors have given a "disclaimer opinion" regarding the companies outlook in the company's latest accounts;
   viii. A special manager has been appointed as provided for under the Danaharta Nasional Berhad Management Act 1998.

[247]PN17 companies are PN4 companies which are being restructured and get into trouble again and the situation is not rectified.

[248] Issued and paid-up capital for Main Board and Second Board must have a minimum of RM60 million and RM40 million respectively.

reports for the three consecutive years 2003 to 2005, difficulties in assessing the annual reports online, and anomalous data.   The sample of 476 remaining companies is further reduced if there is unclear or no separation between executive and non-executive remuneration in the annual report. This segregation is important since this study focuses on the executive remuneration where the bulk of total directors pay goes to the executive directors[249]. Taking this into consideration, 372 companies are used as a sampling frame for this study. Due to the intensive and time consuming nature of hand collecting the executive remuneration and corporate governance data, 200 companies are chosen out of the 372 companies. Due to unavailability of data from Datastream or conflicting data between Datastream and annual reports, the final sample is reduced to 158 companies.

Finding and Discussion

Sample Characteristics

A number of 158 companies from Bursa Malaysia had been used as a sample of this study. Table 1 below shows a breakdown of 158 companies according to their board category and sector classification.   About 76% or 120 out of 158 companies are from Main Board and the remaining which is about 24% or 38 companies is from Second Board of Bursa Malaysia. The sample is dominated by Main Board companies due to

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[249] Non-executive director remuneration which basically comes from fee is also taken during data collection process.   Our data show that on average, 90% of director remuneration is from executive directors and about 10% from non-executive directors.

their large population compared to Second Board companies[250]. Furthermore, the companies are divided into several sectors such as construction and properties, consumer product, industrial product, plantation, trading and other (finance, infrastructure, mining and technology) as classified by Bursa Malaysia (The Star, December 21, 2005). Table 1 also shows that sample of this study can be considered as well distributed within industries. Out of the total 158 companies, 46 or 29.11% of them are from the industrial product which is the largest sector for the sample. The second largest sector is construction and properties which comprises 32 representing 20.25% of the total sample of companies. This is followed by consumer product and trading sector (27 companies or 17.09% for both sectors). Further, it is followed by plantation sector which around 16 companies or 10.13%. The remaining companies are finance, infrastructure, mining and technology which are grouped under other category.

Table 1: Breakdown of companies by board category and sector

Sector	Board Category		Total Number of Companies	Percentage
	Main	Second		
Industrial Product	24	22	46	29.11
Construction/Properties	29	3	32	20.25
Consumer Product	22	5	27	17.09
Trading	23	4	27	17.09
Plantation	15	1	16	10.13
Other*	7	3	10	6.33
Total	120	38	158	100.00

*Other include finance, infrastructure, and mining and technology sectors

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[250] As at January 2006, there are about 1,025 companies listed on the Bursa Malaysia; 646 on Main Board; 269 on Second Board and 110 on MESDAQ.

Executive Remuneration in Malaysia

This study collects total cash executive remuneration data from 158 companies of 2003 to 2005 annual reports[251]. The data provides a better understanding on the nature and trend of executive remuneration in Malaysia. Among the useful findings are the components of executive remuneration, trend of the components for the three years of study and remuneration level for the executive director. Figure 1 illustrates that component of executive remuneration in Malaysia consist of salary and bonus, fee (i.e. attendance fee for board meeting), benefit in kinds (i.e. car and medical insurance), retirement (i.e. pension, Employee Provident Fund (EPF) and define contribution plan), allowance and others (i.e. ex-gratia, retirement benefit, performance incentive and commission). These components are very much similar to the world-wide practices (Murpy, 1999 and Conyon, 2006). Figure 1 clearly indicates that salary and bonus is the main component of executive remuneration in Malaysia. In addition, the finding also depicts that there is a huge gap of pay between the components.

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[251] Numbers of survey have been conducted concerning director remuneration in Malaysia; however, none of the survey specifically explores the nature and trend of executive remuneration in Malaysia. For example, annual survey by Malaysian Business and TheEdge focus on the highest paid director in Malaysia (including of executive and non-executive director). Whilst, survey that conducted by Uitm and MSWG (2007) focus on the level of compliance with the corporate governance principles and best practices on directors' remuneration. Meanwhile, PricewaterhouseCoopers which conducted a yearly survey focus on board remuneration & practices in relation to board effectiveness [(PricewaterhouseCoopers (2005, 2001)]. Hence, as far as this study concern, this is a first study that comprehensively compiles remuneration data primarily on executive director. At the beginning, this study tries to focus on CEO pay only as what being studied in other countries such as US, UK and Hong Kong. However, this study discovers that only few companies disclosed an individual director remuneration including the executive director. Based on data gathered, this study reports that only 14% out of 474 firm years or about 7 companies disclosed individual director remuneration (Table 2). This finding is consistent with Standard and Poor (2005) survey. They report that only 15% out of 100 companies disclosed the exact remuneration received by each executive and non-executive director. Therefore, concerning the constraint of data unavailability on CEO pay, this study focuses on executive remuneration.

Figure 1 below shows the trends in each of the components of executive remuneration from 2003 to 2005. It is quite clear that salary and bonus component had been slowly decreased from 2003 to 2005 although in a small percentage. The salary and bonus component percentages of 2003, 2004 and 2005 are 85%, 80% and 79% respectively. Furthermore, the figure also shows that the retirement and others components are increased from 2003 to 2005 although relatively in a small percentage. On the other hand, fee and benefits appear to be static over the periods. This finding seems to suggest that Malaysia companies are trying to shift from rewarding their executive based on fixed salary to other alternative. Apparently, this finding also implies that retirement and others components is increasing from year to year for although in a small momentum.

Figure 1: Components of Executive Remuneration – Trends from 2003 to 2005
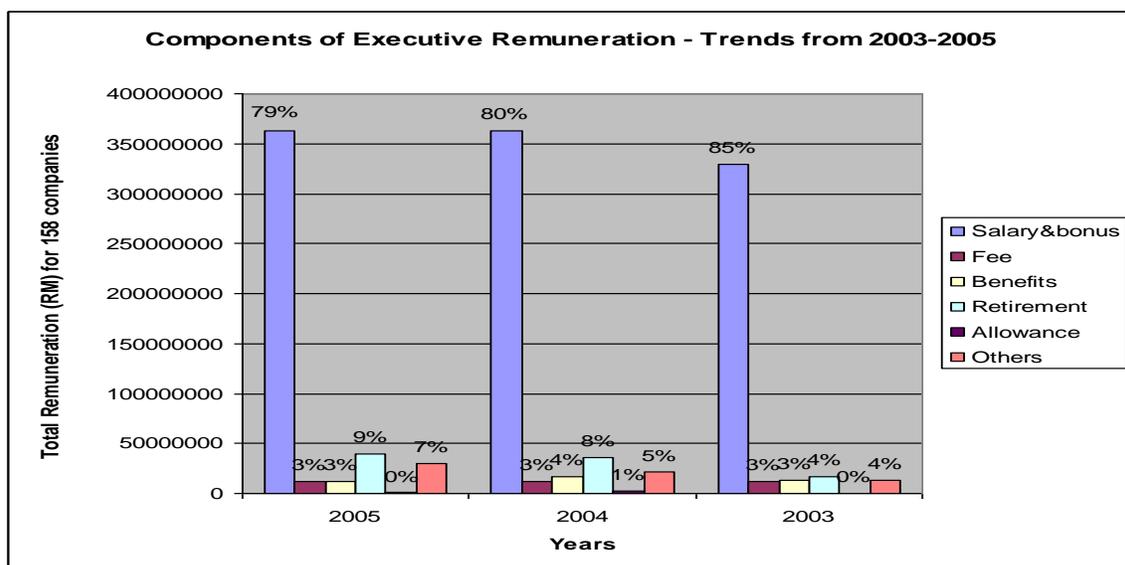
Besides components and trends, this study also explores the level of executive remuneration in Malaysia. Figure 2 illustrates the frequencies of executive pay size for the sample. The figure explicates that majority of Malaysian executive director being compensated in the range of RM50,000.00 to RM1,500,000.00 (43.67%). Furthermore, 12.87% receives between RM1,500,000.00 to below RM2,000,000.00. About 22.36% receives in the range of RM2,000,000.00 to below RM5,000,000.00. Moreover, the figure also shows that only about 8.86% being compensated over than RM5,000,000.00. However, the figure also reveals that 12.24% obtains below than RM50,000.00. In addition, this study discovers that a lot of companies disclosed information on director remuneration in corporate governance statement at company level whilst information disclosed in notes to account in the financial statements is at group level.

Figure 2: Frequencies of Executive Pay Size

Frequencies of Executive Pay Size
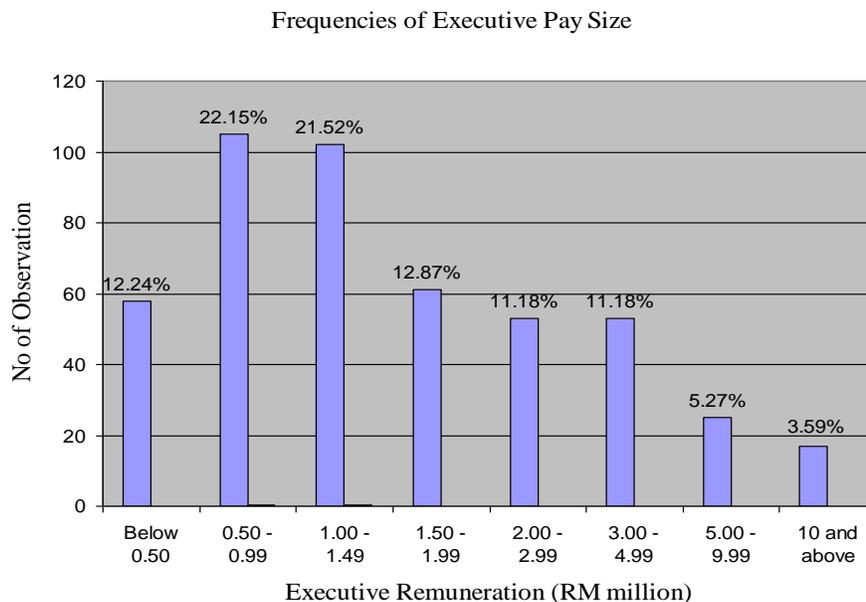
Based on the executive remuneration information above, this study can confidently claim that executive director is being remunerated based on fixed salary rather than performance based (i.e. bonus). This can be evidenced by referring to Figure 1 which depicted that salary and bonus as the most important component of remuneration for executive director[252]. In addition, the gap of pay between salary and bonus component with other components is huge. Besides, this study also reveals that on average Malaysian executive director has being paid in the range of RM50,000.00 to RM1,500,000.00 per year. Moreover, only about 10% firm-years companies receive more than RM5,000,000.00.

Ownership Structure

474 firm- years have been classified according to the largest ownership group (10% cut-off point). Figure 3 depicts that 65% of 474 firm- years belong to managerial ownership which representing the largest shareholder in this study. Furthermore, the figure shows that 14% of the 474 firm- years, which is the second largest shareholder is belong to local institutional shareholders. It is then followed by foreign investors which are around 10% of the total shares. Nevertheless, non-executive directors also have significant amount of shares which is around 9% from the total shares. In addition, Figure 4 shows that about 30% of the firm-years have managerial ownership less than 10%, whereas about

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[252] With regard to share option (figure is not disclosed), this study reports that out of 474 firm-years, 45% or 217 granted share option to their executive director while 55% or 257 do not grant an option to their executives. This finding support a survey by PricewaterhouseCoopers survey (2005) that 40% out of 105 companies granted share option to their executive directors.
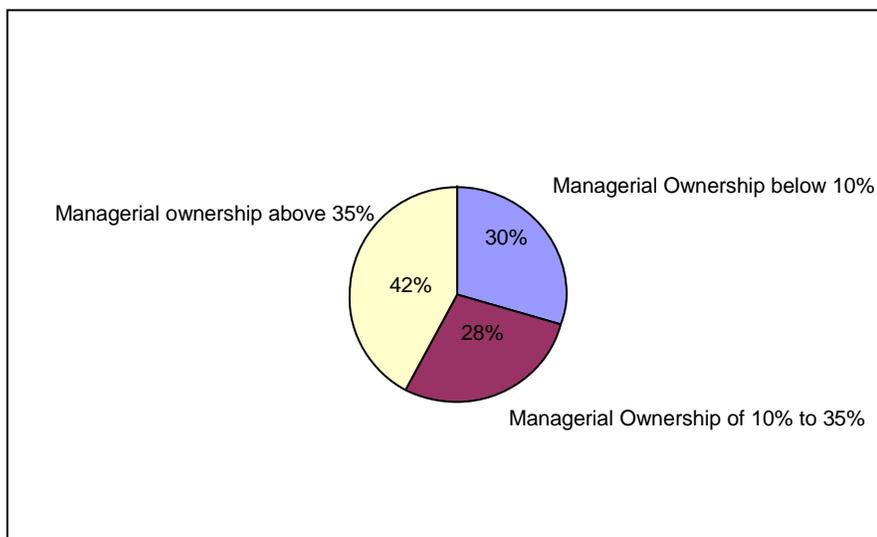
28% of the firm-years have managerial ownership between 10% to 35%. Slightly more than 40% of our firm-years have managerial ownership above 35%.

Based on evidence shown in Figures 3, this study concludes that large number of Malaysian companies is owned by the executive directors and their family members. Even so, non-executive directors, local institutions and foreign investors are also the significant shareholders in some Malaysian companies as well. Findings of this study are consistent with other studies in Malaysia on ownership structures. For example, Abdul Samad (2002) finds the means for the largest shareholder and the five largest shareholders to be about 30% and 60% respectively. His finding is support by Haniffa and Hudaib (2006), where they report the mean shareholdings of the single largest shareholder and the five largest shareholders are 31% and 62% respectively.

Figure 3: Breakdown of Samples by Category of Largest Shareholders

	MANAGERIAL NED LOCAL FOREIGN OTHER	Freq	%
MANAGERIAL		309	65.19
NED		43	9.07
LOCAL		66	13.92
FOREIGN		45	9.49
OTHER		11	2.32
Total		474	100

Figure 4:   Breakdown of Sample by Level of Managerial Ownership

Board and Remuneration Matters

Table 2 shows a descriptive statistic for thirty seven attributes of board and remuneration for a three years period of 2003 to 2005. Part A consist of 22

attributes show the mean, maximum, minimum and standard deviation for board matters. It is followed by Part B with another 15 attributes of remuneration matters. Board matters concentrate on composition, structure, function/activity and training of board member.   Part A of Table 2 shows that on average companies have eight members on their board for the observation years of 2003 to 2005. The maximum number is 15 persons while the minimum number is 4 persons. This finding is consistent with a survey by Standard and Poor (2005) and Haniffa and Hudaib (2006) for companies in Malaysia. Standard and Poor (2005) reports of 9 members whilst Haniffa and Hudaib (2006) reports of 8 members. In addition, this finding is in line with a suggestion by Lipton and Lorch (1992), where to be an effective board; the board size should be between 8 and 9 members. With regard to directors' independency, the descriptive statistic of Part A shows that about 60% of companies had more than one-third of independent director on board.   This statistic imply that more than half of Malaysian companies have successfully follow the recommendation of The Code by having more than one-third of independent director on board. In addition the statistic results show that about 12% of companies had independent directors more than one-half of the board members and only about 5% companies had independent directors more than two-third of the board members.   However, although not tabulated in Table 2, this study also figures out that about 11% (54 observations) had less than one-third of independent directors on board.

Table 2 evidences that on average, 80% of observations do separate the role of chairman and CEO of their companies. This finding is consistent with Haniffa and Hudaib (2006) where they report around 74% for the entire period of 1996 to 2000. They also claim that there is an increasing trend on role duality. They report that role duality has increased from 17% in 1996 to 30% in 2000. This finding is quite similar to the finding of Standard and Poor (2005), where, they report that about 94% companies separate the role. Further study on this attribute reveals that

only about 67% of companies in fact separated the role of chairman and CEO of their companies. This observable fact is due to the family relationship among the board members. There are companies where the father is the chairman whilst the son or the son in law is the CEO of the company (e.g. CheeWah Berhad, YTL Corporation Berhad, MTD Capital Berhad). The Table also discloses that only 16% of observations allow the board members to have an access to company senior management. Statistic on accessing to company senior management does imply that companies still prevent board members from getting firsthand information directly from senior management.

Statistic of Table 2 shows that on average 5 board meetings had been held for a year. The maximum board meeting is 18 times (Public Bank Berhad) whilst the minimum is 1 time (Lysaght Berhad) a year. Further to that, this study also compiles data on the frequency of board meeting which being divided into four categories. The statistic shows that almost 70% of observations held meeting at least 4 times a year as recommends by The Code on best practices. In addition, 18% of the boards met more than 6 times a year, 6% for more than 8 times and 1% above 12 times. On the other hand, although not tabulated in Table 2, this study also discovers that at least 9 observations (2%) held meeting less than 4 times a year. Furthermore, the Table

1438

confirms that almost all of the companies disclose aggregate board attendance and attendance of individual director. Attendance at board meetings is one of the indicators of a director's contribution to the company although it does not show whether a director actually contributes actively to board discussions.

With regard to training, 86% of directors had attended a mandatory training program as required by The Listing. Moreover, 28% of the observations had an orientation program for new director and about 15% incorporated business and corporate governance practices in their orientation program. Overall, the statistic clarifies that the mean of board score is a bit reduced from 2003 to 2004 (6.82 to 6.70), however, notably rose from 2004 to 2005 (6.70 to 7.42).

Remuneration Matters

There are two aspects focus by remuneration matters. First, it is relating to the formation, composition, meeting and attendance and functions or duties of remuneration committee. Second, it is concerning to the remuneration elements such as using market comparison or consultant in determining remuneration, link pay to either individual or corporate performance, preventing executive director in determining their own pay, long term incentives, compliance with RM50,000.00 band, disclosure of individual pay and components of pay.

Part B of Table 2 depicts that out of 474 observations, 88% (n=420) had a remuneration committee. Based on 420 observations, 70% of the remuneration committee had majority independent member and just about 13% had all independent member. In addition to that, 61% admit that their remuneration committee is chaired by independent member.   Meanwhile, on the meeting aspect, only 38% disclose their remuneration committee's meeting and roughly 17% disclose their attendance in remuneration committee meeting in their annual report.   With regard to remuneration committee function, 80% acknowledge that their remuneration committee recommends remuneration framework to the board. However, only 23% reports that their remuneration committee reviews all aspect of the remuneration. Statistical results on formation and remuneration committee independency seem to advocate that Malaysian companies have a convincing corporate governance structure particularly on remuneration committee as recommended by The Code and international corporate governance best practices.

Further, Part B of Table 2 reveals that on average 33% of observations (n=474) had a possibility of using market comparison or consultant in determining executive remuneration.   The statistic also exhibits that 61% link executive director remuneration to individual or company performance. Additionally, 55% asserts that their executive director is prevented from determining their own remuneration.   Besides, about 45% state that their executive director remuneration including of long term incentives and on average, 82% claim that

they comply with the RM50,000.00 bands. However, the statistic also makes clear that only 14% disclose of individual director remuneration. On the other hand, 81% state that they disclose remuneration components which analyzed by salaries, bonuses, option and long term incentives. Furthermore, the statistic shows a steady increase for remuneration score from 2003 to 2005 although in small magnitude. The remuneration score means are 7.11, 7.15 and 7.23 respectively.

Table 2: Descriptive Statistics of Governance Attributes (Board and Remuneration Matters) from 2003 to 2005

No	Variables	Mean				Maximum				Minimum				Std. Deviation			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
	N	158	158	158	474	158	158	158	474	158	158	158	474	158	158	158	474
	Part A																
1	Board size	7.89	7.72	7.66	7.76	13	15	15	15	4	5	5	4	1.91	1.84	1.91	1.89
2	% of executive director on board	0.38	0.38	0.36	0.37	0.71	0.73	0.71	0.73	0.08	0.08	0.09	0.08	0.17	0.18	0.18	0.18
3	% of non-executive director on board	0.21	0.21	0.22	0.21	0.6	0.6	0.6	0.6	0	0	0	0	0.17	0.17	0.17	0.17
4	% of independent director on board	0.41	0.41	0.42	0.41	0.88	0.75	0.78	0.88	0.29	0.27	0.11	0.11	0.11	0.10	0.11	0.11
5	Independent director constitute more than .3333 of the board	0.59	0.61	0.66	0.62	1	1	1	1	0	0	0	0	0.49	0.49	0.48	0.49
6	Independent director constitute more than half of the board	0.12	0.11	0.14	0.12	1	1	1	1	0	0	0	0	0.33	0.32	0.35	0.33
7	Independent director constitute more than .6666 of the board	0.05	0.06	0.05	0.05	1	1	1	1	0	0	0	0	0.22	0.23	0.22	0.22
8	Separation of role between chairman and CEO	0.80	0.82	0.82	0.81	1	1	1	1	0	0	0	0	0.40	0.38	0.38	0.39
10	Chairman and CEO are unrelated person	0.66	0.68	0.68	0.67	1	1	1	1	0	0	0	0	0.47	0.47	0.47	0.47
12	Board has an access to company's senior management	0.15	0.15	0.17	0.16	1	1	1	1	0	0	0	0	0.35	0.36	0.38	0.36
13	Board meeting per year	5.55	5.38	5.53	5.49	18	16	17	18	2	2	1	1	2.16	1.94	1.93	2.01
14	Board meet more than 4 times a year	0.68	0.65	0.70	0.68	1	1	1	1	0	0	0	0	0.47	0.48	0.46	0.47
15	Board meet more than 6 times a year	0.19	0.16	0.19	0.18	1	1	1	1	0	0	0	0	0.39	0.37	0.39	0.38
16	Board meet more than 8 times a year	0.07	0.05	0.06	0.06	1	1	1	1	0	0	0	0	0.26	0.22	0.24	0.24
17	Board meet more than 12 times a year	0.03	0.01	0.01	0.01	1	1	1	1	0	0	0	0	0.16	0.11	0.08	0.12
18	Aggregate board attendance disclosed	0.99	0.97	0.97	0.98	1	1	1	1	0	0	0	0	0.08	0.16	0.16	0.14
19	Attendance of individual directors disclosed	0.99	0.96	1.00	0.99	1	1	1	1	0	0	1	0	0.08	0.19	0.00	0.12
20	Mandatory training program	0.81	0.85	0.92	0.86	1	1	1	1	0	0	0	0	0.39	0.35	0.28	0.35
21	Orientation program for new director	0.32	0.29	0.22	0.28	1	1	1	1	0	0	0	0	0.47	0.46	0.42	0.45
22	Orientation program incorporated company's bus and cg practices	0.19	0.14	0.13	0.15	1	1	1	1	0	0	0	0	0.39	0.35	0.33	0.36
	Total board score	6.82	6.70	7.42	6.98	13	13	14	14	3	3	2	2	1.83	1.82	1.82	1.82
	Part B																
23	Remuneration committee existence	0.89	0.89	0.87	0.88	1	1	1	1	0	0	0	0	0.32	0.31	0.33	0.32
24	Majority remuneration committee independent	0.73	0.67	0.68	0.69	1	1	1	1	0	0	0	0	0.45	0.47	0.47	0.46
25	All remuneration committee independent	0.13	0.12	0.15	0.13	1	1	1	1	0	0	0	0	0.33	0.33	0.36	0.34
26	Remuneration committee's chairman independent	0.59	0.62	0.62	0.61	1	1	1	1	0	0	0	0	0.49	0.49	0.49	0.49
27	Remuneration committee's meeting disclose	0.37	0.39	0.40	0.38	1	1	1	1	0	0	0	0	0.48	0.49	0.49	0.49
28	Remuneration committee's attendance disclose	0.17	0.15	0.18	0.17	1	1	1	1	0	0	0	0	0.38	0.35	0.39	0.37
29	Remuneration committee recommends framework to board	0.80	0.80	0.82	0.80	1	1	1	1	0	0	0	0	0.40	0.40	0.39	0.40
30	Remuneration committee reviews all aspect of remuneration	0.23	0.23	0.23	0.23	1	1	1	1	0	0	0	0	0.42	0.42	0.42	0.42
31	Possibility of using a consultant in determining executive pay	0.32	0.33	0.34	0.33	1	1	1	1	0	0	0	0	0.47	0.47	0.47	0.47
32	Company link pay to individual or company performance	0.58	0.63	0.63	0.61	1	1	1	1	0	0	0	0	0.49	0.49	0.49	0.49
33	Executive director prevented from deciding their own pay	0.52	0.58	0.54	0.55	1	1	1	1	0	0	0	0	0.50	0.50	0.50	0.50
34	Executive director remuneration include long term incentives	0.43	0.48	0.46	0.45	1	1	1	1	0	0	0	0	0.49	0.50	0.50	0.50
35	Compliance of RM50000.00 band	0.84	0.84	0.80	0.82	1	1	1	1	0	0	0	0	0.37	0.37	0.40	0.38
36	Disclosure of individual director remuneration	0.15	0.13	0.15	0.14	1	1	1	1	0	0	0	0	0.53	0.49	0.53	0.52
37	Disclosure of component analyzed by salaries, bonuses, options and long term incentives	0.81	0.78	0.82	0.81	1	1	1	1	0	0	0	0	0.39	0.41	0.38	0.40
	Total remuneration score	7.11	7.15	7.23	7.16	13	12	15	15	1	1	1	1	2.55	2.41	2.62	2.53

1, 2, 3 and 4 denote year 2003, 2004, 2005 and total

Performance-Based Pay and Non-Performance-Based Pay Companies

This study split the sample into two groups which are performance-based pay and non-performance based pay. The former consists of companies which claim that their executive pay is linked to performance as disclosed in their corporate governance statement. Meanwhile the latter group consists of companies which do not make such assertion or are silent on the linkage of executive pay to performance in their corporate governance statement.

Classification of Performance-Based Pay and Non-Performance-Based Pay Companies

Table 3 below shows a classification of companies which associated with performance-based pay and non-performance based pay for the 3 years of study. The table reveals that 95 (60%) out of 158 companies disclosed that their executive remuneration is linked to performance/ company contribution for the 3 consecutive years of study as shown by classification 1. However, classification 2, show that 55 (35%) companies do not disclosed whether their executive remuneration is linked to performance/ company contribution for the 3 consecutive years of study as well. Additionally, classification 3, 4, 5 and 6 show that there are cases where companies are inconsistent in disclosing information in corporate governance report whether their executive remuneration is linked to performance/ company contribution or not. Appendix 1 illustrates an example of

data extraction of the performance-based pay and non-performance based pay companies.

Table 3: Classification of Performance Based and Non-Performance Based Pay Companies

Classification	2003	2004	2005	Total
1	1	1	1	95
2	0	0	0	55
3	0	1	1	3
4	1	0	0	2
5	0	0	1	2
6	1	1	0	<u>1</u>
				158

Note; 1 for Performance-Based Pay, 0 for Non-Performance-Based Pay

Descriptive Statistics of Performance Based Pay and non-Performance Based Pay Companies.

Table 4 shows that out of 474 firm-years, 297 or 63% are categorized under performance-based pay and 177 or 27% firm-years belong to non-performance-based pay. We, compare the characteristics of the two groups. Table 4 reveals that the average pay for performance and non-performance based are RM2, 290,047.00 and RM3, 405, 120.00 respectively. Meanwhile, the highest level of executive pay for performance-based pay company is RM18, 940, 000. On the other hand, the highest level of executive pay for non-performance-based pay company is about RM78, 788, 000. The lowest level of executive pay for performance-based pay company is RM48, 000, as compared to RM32, 500 for the non-performance-based pay company. However, there is no significant

difference of mean of executive remuneration for both groups. Above result for executive remuneration seems to suggest that level of executive pay is not different either the companies assert that they link pay to performance or otherwise.

Further, Table 4 shows that mean share ownership by inside directors and local institutional shareholders for performance-based pay companies are 29 percent and 14 percent, slightly higher than the corresponding figures for non-performance based pay companies 26 percent and 9 percent for inside director ownership and local institutional shareholders ownership respectively. The average mean of foreign ownership are 7 percent and 6 percent for performance and non-performance based company. Among the three types of ownership, only institutional shareholder show a significant difference of mean which is around 0.04. T-test result of ownership structure as shown in Table 4 implies that ownership of institutional shareholder is higher in performance based companies as compared to non-performance based companies.

In addition, Table 4 shows that mean of board score is slightly higher in performance based as compared to non-performance based companies. The means are 7.10 and 6.77 respectively and the mean is significantly difference at 0.33. In addition, the maximum board score for performance based companies is 14 points while 13 for non-performance based companies. Similarly, the table also reports a remarkable different of mean between performance based pay

1445

company (7.06) and non-performance based pay company (5.67). The mean is significantly difference at 1.39. T-test result for board and remuneration score imply that companies which link pay to performance tend to adopt the Code recommendation regarding having an effective and efficient board and good remuneration practices as compared to non-performance based companies.

Additionally, Table 4 shows that mean of return on stock (RET), return on asset (ROA) and return on equity (ROE) are notably higher for performance based companies rather than non-performance based companies. The means are 0.11, 0.08, 0.09 and 0.04, 0.05 and 0.01 respectively. The means of ROA and ROE for performance based pay companies are considerately significant if compared to non-performance based pay companies. The different mean of ROA is 0.03 while for ROE is 0.08. However, mean for RET is insignificantly different. The results for ROA and ROE suggest that companies which link pay to performance perform better than companies which do not link their pay to performance. Also, the table report that mean for total asset and total debt are significantly different for performance based and non-performance based companies.

Table 4: Descriptive Statistics of Performance Based Pay and non-Performance Based Pay Companies.

Variables	Type	N	Mean	Minimum	Maximum	Std. Dev	Mean Diff
Executive pay (RM thousand)	PB	297	2290047.63	48000.00	18940000.00	2499563.70	
	NPB	177	3405120.58	32500.00	78788000.00	9987728.05	-1115072.96
% Insider ownership	PB	297	0.29	0.00	0.85	0.23	
	NPB	177	0.26	0.00	0.67	0.21	0.03
% Institutional ownership	PB	297	0.14	0.00	0.91	0.20	
	NPB	177	0.09	0.00	0.82	0.15	0.04**

% Foreign ownership	PB	297	0.07	0.00	0.60	0.15	
	NPB	177	0.06	0.00	0.56	0.11	0.02
Board score	PB	297	7.10	2.00	14.00	1.96	
	NPB	177	6.77	3.00	13.00	1.63	0.33*
Remuneration score	PB	297	7.06	1.00	14.00	2.20	
	NPB	177	5.67	1.00	10.00	2.32	1.39**
Return on stock (RET)	PB	297	0.11	-0.72	2.76	0.39	
	NPB	177	0.04	-0.90	2.63	0.48	0.07
Return on asset (ROA)	PB	297	0.08	-0.28	0.66	0.10	
	NPB	177	0.05	-0.41	0.33	0.09	0.03**
Return on Equity (ROE)	PB	297	0.09	-0.55	1.30	0.17	
	NPB	177	0.01	-3.89	2.11	0.48	0.08**
Market value	PB	297	1640037.30	12830.40	39232627.00	5088148.63	
	NPB	177	512961.82	1758.08	14507321.00	1560837.90	1127075.48**
Equity	PB	297	946056.53	17976.00	19453300.00	2355421.60	
	NPB	177	695116.34	5827.00	15279810.00	1945484.33	250940.19
Net income	PB	297	113090.31	-94029.00	2613500.00	306973.81	
	NPB	177	94484.25	-184605.00	4720000.00	434680.69	18606.06
Total asset	PB	297	2569656.73	29876.00	111258600.00	10122582.45	
	NPB	177	1279452.19	25672.00	37445700.00	4037435.14	1290204.54*
Total debt	PB	297	517255.55	0.00	14480260.00	1908635.38	
	NPB	177	274623.11	0.00	9356251.00	1051326.81	242632.44*

PB (Performance based), NPB (Non-performance based)

Factors Determining the Adoption of Pay-for-performance

Table 5 and 6 below shows logistic result of factors that influence the adoption of pay-for-performance by companies as recommended by the Code. Table 6 shows that only remuneration score is significant at 1% levels while the other factors are insignificant for 2003. However, as for 2004 and 2005, percentage of managerial ownership, percentage of local institutional ownership and remuneration score show a significant influence on the adoption of pay-for-performance. The results seem to suggest that higher percentage of managerial ownership and local institutional ownership affect the adoption of pay-for-performance. Similarly, the results also specify that higher remuneration score do affect the pay-for-performance. On the hand, the result is insignificant for

1447

board score. This result indicates that board plays no part in aligning the pay to performance as expected by agency theorists and the Code.   In addition, result of table 6 affirms the influence of percentage of managerial ownership, percentage of local institutional ownership and remuneration score on the adoption of pay-for-performance.

Table 5: Factors Determining the Adoption of Pay-for-performance (474 observations)

Variables in the Equation	B	S.E.	Wald	df	p	Odds Ratio	95.0% C.I.for Odds Ratio Lower	Upper
% of managerial ownership	1.65	0.56	8.79	1	0.00	5.19	1.75	15.41
% of local inst. Ownership	2.19	0.65	11.48	1	0.00	8.94	2.52	31.72
% of foreign ownership	2.02	0.86	5.51	1	0.02	7.56	1.40	40.94
Board score	0.01	0.06	0.05	1	0.81	1.01	0.90	1.15
Remuneration score	0.27	0.05	30.06	1	0.00	1.30	1.19	1.43
Constant	-2.12	0.53	15.93	1	0.00	0.12		
X^2 (5, N=474)=	57.49							
Cox and Snell R Square	0.114							
Nagelkerke R Square	0.156							
Hosmen & lemeshow test	0.237							

Table 6: Factors Determining the Adoption of Pay-for-performance (By years)

Variables in the Equation	B	S.E.	Wald	df	p	Odds Ratio	95.0% C.I.for Odds Ratio Lower	Upper
2003								
% of managerial ownership	0.90	0.96	0.87	1	0.35	2.46	0.37	16.31
% of local inst. ownership	1.65	1.10	2.23	1	0.14	5.19	0.60	44.99
% of foreign ownership	1.25	1.44	0.75	1	0.39	3.47	0.21	58.26
Board score	0.02	0.11	0.04	1	0.85	1.02	0.83	1.26
Remuneration score	0.25	0.08	9.32	1	0.00	1.28	1.09	1.51
Constant	-1.75	0.88	3.96	1	0.05	0.17		
2004								
% of managerial ownership	1.84	0.99	3.48	1	0.06	6.31	0.91	43.61
% of local inst. ownership	2.51	1.16	4.69	1	0.03	12.25	1.27	118.45
% of foreign ownership	2.42	1.58	2.33	1	0.13	11.23	0.50	250.96
Board score	-0.04	0.12	0.10	1	0.75	0.96	0.77	1.21
Remuneration score	0.32	0.09	11.89	1	0.00	1.38	1.15	1.65

Constant	-2.22	0.92	5.80	1	0.02	0.11		
2005								
% of managerial ownership	2.15	0.95	5.12	1	0.02	8.61	1.33	55.56
% of local inst. ownership	2.52	1.12	5.06	1	0.02	12.40	1.38	111.24
% of foreign ownership	2.41	1.48	2.64	1	0.10	11.11	0.61	203.04
Board score	0.05	0.11	0.20	1	0.66	1.05	0.85	1.30
Remuneration score	0.25	0.08	9.48	1	0.00	1.28	1.09	1.50
Constant	-2.45	0.99	6.10	1	0.01	0.09		

	2003	2004	2005
X^2 (5, N=158)=	15.96	22.99	20.22
Cox and Snell R Square	0.096	0.135	0.120
Nagelkerke R Square	0.131	0.185	0.164
Hosmen & lemeshow test	0.994	0.459	0.344

Conclusion

Results of this study show that executive director is largely being remunerated based on fixed salary rather than other components of pay. In addition, on average Malaysian executive director has being paid in the range of RM50,000.00 to RM1,500,000.00 per year. Only about 10% firm-years companies receive more than RM5,000,000.00 per year. Further, this finding also reveals that Malaysia companies are trying to shift from rewarding their executive based on fixed salary to other alternative although in small percentage. With regard of ownership, this study finds that large number of Malaysian companies is owned by the executive directors and their family members. Even so, non-executive directors, local institutions and foreign investors are also the significant shareholders in some Malaysian companies as well. Findings of this study are consistent with other studies in Malaysia on ownership structures

(Abdul Samad, 2002 and Haniffa and Hudaib, 2006). Meanwhile, overall results for board matters which related to composition, structure, function/activity and training seem to reflect that Malaysian companies put an effort to follow the Code recommendations. However, on the aspect of remuneration matters, the results indicate that Malaysian companies are still lacking in adopting of the Code for both aspect of remuneration. There still a room for improvement in particular remuneration committee independency, meeting and attendance and remuneration practices.

Interestingly, this finding reveals that there is a significant difference of mean between companies which assert that their pay is linked to performance or otherwise. Among the variables are institutional shareholder, board score, and remuneration score, return on asset, return on performance, total asset and total debt. Furthermore, this study finds that adoption of pay-for performance as recommended by the Code is influence by ownership structure in particular the percentage of managerial ownership, local institutional ownership and foreign ownership. On the aspect of corporate governance, remuneration score seems to show a strong influence on the adoption while board score is insignificant. Above findings brings to fore urgent need for the shareholders and authority in encouraging company to follow the Code's recommendation in particular on the aspect of remuneration structure and practices.

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Appendix 1 : Disclosure and Non-disclosure of Performance-Related Pay in Annual Reports

Company	2005	2004	2003
A Company that makes a positive statement that it uses performance-related pay scheme for executive directors	The framework for the remuneration of the Executive and Non-Executive Directors are reviewed regularly against market practices. As an Executive Director, the Group CEO is paid a salary, allowances, bonuses and other customary benefits as appropriate as a senior management member. Salary reviews take into account market rates and the performance of the individual and the Group.	The Executive Directors' remuneration comprises a salary, allowances, bonuses and other customary benefits as appropriate. Salary reviews take into account market rates and the performance of the individual and the Group.	The Executive Directors' remuneration comprises a salary, allowances, bonuses and other customary benefits as appropriate. Salary reviews take into account market rates and the performance of the individual and the Group.
A Company that does not make a positive statement that it uses performance-related pay scheme for executive directors	The Company has adopted the objectives as recommended by the Malaysian Code on Corporate Governance to determine the remuneration of Directors so as to ensure that the Company attracts and retains the Directors needed to run the Company successfully.	The Company has adopted the objectives as recommended by the Malaysian Code on Corporate Governance to determine the remuneration of Directors so as to ensure that the Company attracts and retains the Directors needed to run the Company successfully.	The Company has adopted the objectives as recommended by the Malaysian Code of Corporate Governance to determine the remuneration of Directors so as to ensure that the Company attracts and retains the Directors needed to run the Company successfully.

IMPACT OF ACCOUNTING REFORMS, CG COMPLIANCE REPORTING AND DISCLOSURE INTENSITY ON VALUE RELEVANCE OF ACCOUNTING NUMBERS IN ISE

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Abstract

In this study, we first investigate the intertemporal association between accounting numbers and stock prices in the ISE-100 firms during the 992-2006 period by using an empirical specification of Ohlson (1995). Second, we explore how this association is affected by a series of recent voluntary and mandatory accounting and corporate governance reforms. We specifically explore the impact of the Uniform Accounting System (1994), the voluntary (mandatory) adoption of IFRS (inflation accounting) during 2003-2004, the mandatory adoption of IFRS in 2005, and the CG Principles Compliance Reporting, required since 2004. Finally, we investigate the impact of disclosure intensity on value relevance by updating and utilizing a proprietary Transparency and Disclosure Index calculated for 52 ISE firms for the years 2003-2005. We believe that these reforms and best practices will mitigate the most important agency problem in many emerging markets (EMs) -the expropriation of minority shareholders by concentrated ownership- and thus are expected to enhance the value relevance of accounting information, and thereby capital flow to EMs.
Keywords: Value relevance, net income, book value of equity, valuation models, disclosure, corporate governance principles

Session 5.1: Financial Reporting

THE EFFECTS OF TRANSPARENCY AND DISCLOSURE ON FIRM PERFORMANCE: THE CASE OF SET 100 THAILAND

Suchada Jiamsagul[253]

ABSTRACT

There is limited evidence to support the performance effects of corporate governance in Thailand. Also, many participants in the stock markets also cast doubt on the ways to measure corporate governance. This study chooses transparency and disclosure as a proxy of corporate governance. The main purpose of this study is to test whether transparency and disclosure affect performance of SET100 firms after controlling for block and director ownerships, financial leverage, firm risk, and financial industry dummy. Also, this study aims to identify the variables of S&P:T&D which are related to firm performance. The performance variables are constructed by one accounting based measure (ROA) and two market based measures (Tobin's Q and Stock Return). The sample consists of 100 financial and non-financial firms of SET 100 index announced in year 2005. Their total market value of equity is about eighty percent of listed firms of SET. The results show that accounting policy review and accounting policy details are positively related to ROA, Tobin's Q, and Stock Return. Also, there is a negative relationship between information on auditors and return of common stocks.

Keywords:

Corporate Governance, Transparency and Disclosure, Firm Performance, SET100, Thailand.

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1. Introduction

Responding to the efficient international allocation of capital, the Stock Exchange of Thailand (SET) has actively promoted corporate governance principles. Transparency and disclosure is one of corporate governance mechanisms. It is an important factor to build market confidence and encourage more stable, long-term international investment flows.

This study is motivated from the importance of transparency and disclosure for Thailand's economic development. Furthermore, there is little public empirical evidence to suggest the way to measure transparency and disclosure and to show the relationships between transparency and disclosure and firm performance.

Transparency and disclosure has effects on firm performance since it is the mechanism which is intended to increase the monitoring of management's actions and reduce the information risk borne by the shareholder. Better-transparency and disclosure firms should have a higher operating performance by minimizing the chance of having managers engage in opportunistic behavior. Also since investors perceive well-transparency firms as less risky, they expect a lower expected rate of return. This leads to higher firm value. In addition, if investors perceive that transparency and disclosure is useful, there should be a positive relationship between transparency and disclosure and stock return.

This study looks at the performance effects of transparency and disclosure on SET 100 firms in Thailand by using data from 2004. I investigate whether transparency and disclosure affects three performance measures: ROA, Tobin's Q and Stock Return. Transparency and disclosure variables, following the S&P:T&D scoring system, are measured by twelve subcategories of transparency and disclosure. In addition to explain the performance effect of transparency and disclosure, this study aims to find out which variables of S&P: transparency and disclosure are related to firm performance.

As above explanation, the research question is *whether transparency and disclosure affects firm performance?*

The rest of this paper will be organized into five parts. Literature review part gives theoretical background and prior studies of the relationship between corporate governance and firm performance. Then research hypotheses are conceptually developed and prepared for the empirical tests. The next part provides research methodology, including data and data sources, research model and variable measurements. Empirical result part presents the results and analyses. The final part shows the contribution and the conclusion.

2. Literature Review

The perspectives of agency theory are used to explain the need for corporate governance to improve firm performance. Corporate governance mechanisms such as transparency and disclosure are designed to cope with agency problems and information asymmetry. Hart (1995) indicates that corporate governance mechanisms are necessary if agency problems exist and contracts are incomplete. Klappers and Love (2004) also provide evidence that there are associations between corporate governance mechanisms and either the extent of the asymmetric information or contracting imperfections that firms face. Furthermore, firms with better corporate governance mechanism have higher firm performance.

Prior researchers assess corporate governance in terms of the relationship between ownership concentrations and firm performance. For example, Wiwattanakantang (2001) investigates the effects of controlling shareholders on corporate performance. Using Thai non-financial firms in 1996, the author shows that the presence of controlling shareholders is associated with higher performance measured by the return on assets and the sale-asset ratio.

Rather than considering outside ownership, Dhnadirek and Tang (2003) examine the relationship between managerial ownership and firm performance by using 41 firms in the financial industry during 1994-1996. The authors find that the concentration of managerial ownership beyond 25 percent has a negative association on firm performance.

There are several papers studying the effect of board of directors on firm performance. For example, Connelly and Limpaphayom (2004) also examine the relationship between board of directors and firm performance among life insurance companies. They conclude that outside directors can still be beneficial even for firms with limited managerial discretion such as these life insurance firms.

Furthermore, Sukcharoensin (2003) provides essays on the relationship between corporate governance and firm performance. The author finds that for firms with high ownership structure, the board composition has a lower impact on firm performance measured by Tobin's Q and return on assets. The results from simultaneous regressions indicate that independent structure of the board and audit committee does not enhance firm performance. In contrast, better firm performance leads to a more independent audit committee.

Recently, researchers have paid attention to corporate governance rating. For example, Nittayagasetwat and Nittayagasetwat (2006) investigate the relationship between a firm's stock return and corporate governance rating announcement. Due to data unavailability, the authors use only 11 listed companies that are rated in the top quartile of corporate rating by the Thai Rating and Information Service Co., Ltd. With the event study methodology, the research shows that there is no significant abnormal performance around the announcement of corporate governance rating. The authors suggest that good corporate governance may be of little concern to the investors.

3. Research Hypotheses

Based on the OECD framework, disclosure and transparency is a vital component of the corporate governance framework. Beekes and Brown (2005) also provide evidence that firms with better corporate governance quality make more informative disclosures. Their findings show that better-governed firms make more price-sensitive disclosure and have a larger following of analysts. Also, analyst consensus forecasts for these firms are less biased

and more accurate. In addition, value-relevant information of these firms is more timely in the sense that price discovery is faster.

Recently, the transparency and disclosure score criteria of Standard and Poor have been used as a measure of corporate governance. For example, Patel et al. (2002) use Standard and Poor's score datasets for 354 firms in 19 emerging markets over three years ending 2000. They show that price to book equity ratio is positively correlated with transparency and disclosure scores.

Cheng, Collins and Huang (2003) argue that strong S&P:T&D reduces the firm's cost of equity measured by market beta. Also, it leads to increased risk-adjusted abnormal returns and earnings response coefficients around the release of the S&P scores. With the S&P:T&D database of S&P 500 firms, Chen, Chung, Lee and Liao (2005) find that companies with poor disclosure and transparency have larger economic costs of equity liquidity.

Some researchers have used Standard and Poor's transparency and disclosure measurement criteria to gauge information disclosure in their country. For example, Chiang (2005) provides evidence on the relationship between S&P:T&D scores and operating performance of high tech companies listed in Taiwan. The study shows that scores for financial transparency and information disclosure are the highest among three categories. Also, only this component of transparency and disclosure has a positive significance for firm performance.

This study intends to test the effects of transparency and disclosure on firm performance. I expect a relationship between transparency and disclosure, and firm performance for two reasons. First, the higher transparency and disclosure of the company's business can reduce the asymmetry of information between shareholders and managers. Second, transparency and disclosure serves to keep management in check. In order to test whether transparency and disclosure affects firm performance, the study measures

transparency and disclosure by using twelve subcategories of S&P:T&D criteria (see appendix A). The research hypotheses are as following.

H1: Transparency and disclosure in the transparency of ownership (OWN_TRAN) is related to firm performance.

H2: Transparency and disclosure in the concentration of ownership (OWN_CONC) is related to firm performance.

H3: Transparency and disclosure in the voting and shareholder meeting procedure (OWN_VOTE) is related to firm performance.

H4: Transparency and disclosure in the business focus (FIN_BUSF) is related to firm performance.

H5: Transparency and disclosure in accounting policy review (FIN_ACPR) is related to firm performance.

H6: Transparency and disclosure in accounting policy details (FIN_ACPD) is related to firm performance.

H7: Transparency and disclosure in related party structure and transactions (FIN_RELAT) is related to firm performance.

H8: Transparency and disclosure in information on auditors (FIN_AUDIT) is related to firm performance.

H9: Transparency and disclosure in board structure and composition (BOARD_STRUC) is related to firm performance.

H10: Transparency and disclosure in the role of board (BOARD_ROLE) is related to firm performance.

H11: Transparency and disclosure in directors training and composition (BOARD_TRAIN) is related to firm performance.

H12: Transparency and disclosure in compensation and evaluation of executive (EXE_EVAL) is related to firm performance.

Table 1 lists the measurement and predicted signs of transparency and disclosure variables.

Table1: Measurement and predicted signs of twelve variables of transparency and disclosure.

Variables	Abbreviation	Measurement	Predicted Sign
Twelve sub-categories of transparency and disclosure			
1. Transparency of ownership	OWNR_TRAN	11 Questions of S&P:T&D Scoring System	+
2. Concentration of ownership	OWN_CONC	8 Questions of S&P:T&D Scoring System	+
3. Voting and shareholder meeting procedure	OWN_VOTE	9 Questions of S&P:T&D Scoring System	+
4. Business focus	FIN_BUSF	15 Questions of S&P:T&D Scoring System	+
5. Accounting policy review	FIN_ACPR	9 Questions of S&P:T&D Scoring System	+
6. Accounting policy details	FIN_ACPD	3 Questions of S&P:T&D Scoring System	+
7. Related party structure and transactions	FIN_RELAT	4 Questions of S&P:T&D Scoring System	+
8. Information on auditors	FIN_AUDIT	4 Questions of S&P:T&D Scoring System	+
9. Board structure and composition	BOARD_STRUC	8 Questions of S&P:T&D Scoring System	+
10. Role of the board	BOARD_ROLE	12 Questions of S&P:T&D Scoring System	+
11. Directors training and compensation	BOARD_TRAIN	6 Questions of S&P:T&D Scoring System	+
12. Compensation and evaluation of executive	EXE_EVAL	9 Questions of S&P:T&D Scoring System	+

4. Methodology and Data

4.1 Data and data source

Data of this study include both financial firms and non-financial firms, which are reported by either one of the two announcements of SET 100 index[254] of year 2005. Due to imperfectly overlapping of SET 100 firms, I have 108 observations. After that, I exclude REHABCO firms and firms which the fiscal year ending is not December. I finally have 103 observations which represent nearly eighty percent of the market capitalization of Thai listed firms. The data consist of firms in seven industries (see Table 2):

Table 2: Data classification by Industries

Name of industry	Number of firms
Agro & Food Industry	4
Property and Construction Industry	34
Industrials Industry	5
Resource Industry	11
Service Industry	11
Technology Industry	14
Finance Industry	24

Source: List of securities in the SET100 index during May 3, 2005 to June 30, 2005 and during July 1, 2005 to December 31, 2005.

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[254] Being part of the index, these companies are likely to be of the greatest interest to individual and institutional investors, particularly international investors. Furthermore, these companies are expected to practice relatively higher standards of corporate governance compared to other listed Thai companies and so can be role models of corporate governance for others.

The data in above table are from the SET. More detailed data are from SETSMART database, the annual registration statements[255] (Form56-1), annual corporate reports, and the database of DATASTREAM INTERNATIONAL. The data regarding transparency and disclosure; and ownership structure are from Form 56-1. Annual corporate reports provide additional data where there are gaps in data from SETSMART and Form 56-1. Finally, financial data are from the databases of SETSMART and DATASTREAM INTERNATIONAL.

4.2 Measurement of Firm Performance

As noted in Brown and Caylor (2004), all performance measures are imperfect. Since measurement errors in performance indicators are not perfectly correlated, researchers should examine several performance measures rather than drawing conclusions from only one of them. In this paper, I collect data on three measures of firm performance as dependent variables, based on both accounting and market measures similar to other accounting and finance studies (e.g. Klein, 1998; Wiwattanakantang, 2001)

For two reasons, I prefer to use future performances rather than contemporary performances as dependent variables. First, corporate governance requires more time before its effects on firm performance is reflected. Many of the corporate governance papers link corporate governance variables to future firm performance (e.g. Core et al., 1999, Ertugrul and Hedge, 2005). Second, in order to address the endogeneity problem which is a typical problem in estimating the relationship between performance and corporate governance, a lag variable will be used.

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[255] The Office of the Securities and Exchange Commission (SEC) requires all companies listed on the Stock Exchange of Thailand to fill in the annual registration statement (Form 56-1). They need to clarify accurate and clear information for investors to understand the operation, significant change of the corporation and possible risks.

Return on Assets (ROA) is based on earnings before interest and tax expenses divided by book value of total assets. Return on assets (ROA) measures firm performance in terms of firm's profitability prior to the effect of financing. By separating the financing effects from the operating effects, the ROA provides a cleaner measure of the true profitability of these assets.

For firms in non finance industry[256]:

$$ROA_{2005} = \frac{EBIT_{2005}}{(TA_{2005}+TA_{2004})/2}$$

For firms in finance industry[257]:

$$ROA_{2005} = \frac{EBT_{2005}}{(TA_{2005}+TA_{2004})/2}$$

Where:

EBIT	=	Earnings before interest expenses and tax expenses as of December, 31 2005.
EBT	=	Earnings before tax expenses as of December, 31 2005.
TA	=	Total assets as of December, 31 2005 and 2004.

[256]In case of non-financial firms, I use earnings before interest expenses and tax expenses as a numerator of ROA, since I intend to measure the performance with the viewpoint of operating decision rather than financing decision.

[257] In case of financial business in which interest revenues and expenses is main part of business, I use earnings after interest expense but before tax expense as numerator of ROA.

Tobin's Q is the ratio of the market value of a firm's assets to the book value of its assets. Usually, Tobin's Q is a performance measure in terms of investment opportunity. Tobin's Q is greater than one when the market value of a firm exceeds its book value. This implies that investors are willing to pay a premium over the value of the firm's assets. There is an anticipation of good future prospects under the present management.

$$\text{Tobin's } Q_{2005} = \frac{(MVE + PS + DEBT)_{2005}}{(TA_{2005} + TA_{2004})/2}$$

Where:

MVE = Market value of equity as of December, 31 2005. It is calculated from the fiscal year-end closing price of stock multiplied by the common shares outstanding.

PS = Preferred stock as of December, 31 2005. It is the net number of preferred shares at year-end multiplied by the stated value per share as presented in the balance sheet;

DEBT = Total liability as of December, 31 2005

TA = Total assets as of December, 31 2005 and 2004

In this study, stock return is a performance measure in terms of a return rate of common stocks. The relationships between stock returns and corporate governance can identify how investors perceive the usefulness of corporate governance. This paper does not use an abnormal return which is more appropriated for event study. I prefer to use raw return because it is more suitable if the study focuses on the association between corporate governance variables and future performance. Also prior study indicates that many of

1469

common methods used to calculate long run abnormal stock returns are conceptually flawed and/or lead to biased test statistics (Barber and Lyon, 1997).

I use the monthly return index [258] (RI) from the database of DATASTREAM INTERNATIONAL in computing stock returns.

$$SR^{259}_{2005} = (RI_{2005} - RI_{2004}) / RI_{2004}$$

Where:

RI = Monthly returns indexed as of December 31, 2005 and 2004.

4.3 Research Model

The following model is used for testing the relationship between twelve subcategories of transparency and disclosure and firm performance. With multiple regression analyses, the assumptions of ordinary least squares must be tested prior to conducting the hypotheses. First, the mean of the residual is zero. Second, the variance of residuals is constant (homoscedasticity). Third, multicollinearity problem does not exist. Finally, the error term is normally distributed.

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[258] The RI demonstrates a theoretical growth in value of a share held over a specific period, assuming that dividends are reinvested to purchase additional units of equity at the closing price applicable on the ex-dividend date. The calculation ignores tax and reinvestment charges.

[259] Stock return is calculated by:

$$RI_t = RI_{t-1} * ((P_t + D_t)/P_{t-1})$$

Then, $RI_t / RI_{t-1} = (P_t + D_t)/P_{t-1}$

Add (-1) into both sides of equations

$(RI_t / RI_{t-1}) - 1 = ((P_t + D_t)/P_{t-1}) - 1$

$(RI_t - RI_{t-1}) / RI_{t-1} = (P_t + D_t - P_{t-1})/P_{t-1}$

$(RI_t - RI_{t-1}) / RI_{t-1} = $ Stock Return$_t$

Where:
P_t = price on ex-date
P_{t-1} = price on previous date
D_t = dividend payment associated with ex-date t

Model:

Performance $_{it+1}$ = β_0+β_1OWN_TRAN $_{it}$ +β_2 OWN_CONC $_{it}$+β_3OWN_VOTE $_{it}$

$\qquad$ + β_4 FIN_BUSF $_{it}$ + β_5 FIN_ACPR $_{it}$ + β_6 FIN_ACPD $_{it}$

$\qquad$ +β_7FIN_RELAT $_{it}$ + β_8FIN_AUDIT $_{it}$+β_9 BOARD_STRUC $_{it}$

$\qquad$ +β_{10}BOARD_ROLE$_{it}$+β_{11}BOARD_TRAIN$_{it}$+β_{12}EXE_EVAL$_{it}$

$\qquad$ +β_{13}C_BLOCK$_{it}$+β_{14}C_DOWN $_{it}$+β_{15} C_LEV $_{it}$ +β_{16} C_RISK $_{it}$

$\qquad$ +β_{17} FD $_{it}$ +ε $_{it}$

Performance variables consist of ROA, Log Q[260] and SR. Details of twelve variables of transparency and disclosure are shown in Table 1. Based on prior studies, five control variables are used to avoid spurious correlation. They are block ownership (C_BLOCK), director ownership (C_DOWN), financial leverage (C_LEV), firm risk (RISK) and the dummy variable of financial industry (FD).

Blockholders can be seen as controllers of agency problems. Because of their large shareholdings, they have a strong incentive to monitor managerial behavior. The variable of block ownership is defined as shareholders holding more than 5% of the shares. However, Block ownership does not include shares held by Thai NVDR Co., Ltd., Stock Exchange of Thailand, Thai Trust Fund Management Co., Ltd., and Thailand Securities Depository Co., Ltd.

Director ownership is defined as the percentage of common shares held by directors on the board of directors. The greater the percentage of share equity owned by insiders, the more likely they will make decision consistent with maximizing shareholder wealth, since that will maximize their own wealth.

Following earlier studies such as Anderson and Reeb (2004), Ertugrul and Hegde (2005), and Beiner et al. (2006), standard deviation of stock returns is used to control for firm

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[260] To stabilize the variance of the residual and to make a normal distribution of the residual, Tobin's Q (Q) is transformed to Log Tobin's Q (Log Q).

risk. It captures the overall risk. Financial leverage is measured by total debt to total equity. Financial leverage can increase a firm's value by curbing agency problems.

5. Empirical Results

5.1 Descriptive statistics and Partial correlations

Descriptive statistics for the entire sample of all firms are presented in Table 3. The sample[261] consists of 100 observations under the SET100 Criteria. Panel A of the table shows that the average ROA, Tobin's Q and Stock return are 8.676, 1.422 and -0.048 respectively.

Panel B presents that the twelve subcategories of transparency and disclosure also have 10, 7, 6, 11, 5, 3, 4, 4, 5, 9, 5, 7 questions[262] respectively. The results also show that the subcategory of transparency of ownership (OWN_TRAN), the subcategory of voting and shareholder meeting procedure (OWN_VOTE), the subcategory of accounting policy review (FIN_ACPR), and subcategory of accounting policy details (FIN_ACPD) have positive signs and skew to the right. This suggests that most firms in SET100 are less transparent on transparency of ownership, voting and shareholder meeting procedures, accounting policy reviews and accounting policy details.

With respect to control variables on panel C, there is a large difference in the sample. The proportion of block holding (C_BLOCK) ranges from 0% to 98.9%. Also the maximum and average of the proportion of board of director shareholding (C_DOWN) are 63.5% and

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[261] I exclude 3 firms which have higher firm performance but lower transparency and disclosure scores

[262] Question numbers of 11, 20, 21, 28, 35, 36, 45, 49, 52, 75, 89, 97, and 98 are excluded since all firms get zero from these questions. Question number of 12, 30, 32, 47, 64, 65, 66, 74, and 76 are excluded since all firms get one point from each question (see more detail in appendix A).

10.9%. In addition, the debt to equity ratio (C_LEV) ranges from 0.02 to 29.42. Also, the average and maximum standard deviation of stock returns (C_RISK) are 0.192 and 2.193.

Table 4 shows the descriptive statistics for 76 non-financial firms and 24 financial firms. This table shows the coefficient of variation[263] (CV) to measure the dispersion of non-financial firms and those of financial firms. Overall, I find that the dispersion numbers of financial firms and non-financial firms are not much different. Also, the mean values of transparency and disclosure are quite close between the two groups. However the mean value of ROA of financial firms (3.436) is lower than those of non-financial firms (10.331). Also, financial firms have much higher debt to equity ratio than non-financial firms (6.679 and 2.552).

This study uses the analyses of partial correlations[264] to detect a multi-collinearity problem in regression analysis models. Multi-collinearity is a problem of the high degree of linear correlation among explanatory variables in a regression model. When the multi-collinearity problem exists, the estimated coefficient tends to be less precise. Also, it is difficult to separate the effects of predictors on the dependent variable. The results in Table 5 show that there are seven pairs of partial correlations; however, their correlation coefficients are less than 0.5. Overall, the analyses of correlation show that there should be no serious multi-collinearity on the following analysis of regressions.[265]

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[263] The coefficient of variation (CV) is a measure of dispersion of a probability distribution. CV is defined as the ratio of the standard deviation to the mean.

[264] Partial correlation is the correlation of two variables while controlling for other variables. In other words, partial correlation is a method used to describe the relationship between two variables whilst taking away the effects of other variables.

[265] In addition to partial correlation, this study also uses tolerance (TOL) and variance inflation factor (VIF) as indicators of multi-collinearity. Seen from regression results, VIF of all variables in the models do not exceed 3, TOL is not far from one.

Table 3: Descriptive Statistics (All firms)

Variables	N	Min	Max	Mean	SD	Skew
Panel A: Firm Performance						
ROA	100	-21.910	32.700	8.676	9.296	-0.066
Q	100	0.513	4.477	1.422	0.707	1.954
SR	100	-0.923	0.704	-0.048	0.325	0.135
Panel B: Twelve Sub-categories of Transparency and Disclosure						
OWN_TRAN	100	0.000	9.000	5.210	2.34	0.341
OWN_CONC	100	0.000	7.000	5.900	0.70	-6.252
OWN_VOTE	100	0.000	6.000	2.720	0.96	0.041
FIN_BUSF	100	2.000	10.000	7.020	1.43	-0.391
FIN_ACPR	100	0.000	5.000	0.170	0.60	5.806
FIN_ACPD	100	0.000	3.000	1.030	0.65	1.269
FIN_RELAT	100	0.000	4.000	2.600	0.79	-1.647
FIN_AUDIT	100	0.000	4.000	2.640	0.85	-1.081
BOARD_STRUC	100	1.000	4.000	3.850	0.45	-3.794
BOARD_ROLE	100	1.000	9.000	5.410	2.15	-0.126
BOARD_TRAIN	100	1.000	5.000	3.440	1.23	-0.568
EXE_EVAL	100	0.000	6.000	3.390	1.04	-1.497
Panel C: Control Variables						
C_BLOCK	100	0.000	0.989	0.444	0.214	-0.380
C_DOWN	100	0.000	0.635	0.109	0.170	1.700
C_LEV	100	0.020	29.420	2.780	4.637	3.531
C_RISK	99	0.051	2.193	0.192	0.217	8.298

Note: ROA is return on assets. Q represents Tobin's Q. SR is raw return of the common stock. OWN_TRAN is transparency of ownership. OWN_CONC stands for concentration of ownership. OWN_VOTE stands for voting and shareholder meeting procedure. FIN_BUSF represents business focus. FIN_ACPR represents accounting policy review. FIN_ACPD stands for accounting policy details. FIN_RELAT is related party structure and transactions. FIN_ AUDIT represents information on auditors. BOARD_STRUC stands for board structure and composition. BOARD_ROLE is role of the board. BOARD_TRAIN represents directors training and compensation. EXE_EVAL is compensation and evaluation of executive. C_BLOCK is block ownership. C_DOWN represents director ownership. C_LEV stands for financial leverage.

Table 4: Descriptive Statistics (Non-Financial Firms and Financial Firms)

Variables1	Non-Financial Firms				Financial Firms			
	N	Mean	SD	CV	N	Mean	SD	CV
Panel A: Firm Performance								
ROA	76	10.331	9.872	0.956	24	3.436	4.061	1.182
Q	76	1.493	0.773	0.518	24	1.199	0.366	0.305
SR	76	-0.053	0.344	-6.491	24	-0.032	0.264	-8.250
Panel B: Twelve Sub-categories of Transparency and Disclosure								
OWN_TRAN	76	5.329	2.413	0.453	24	4.833	2.120	0.439
OWN_CONC	76	5.908	0.769	0.130	24	5.875	0.448	0.076
OWN_VOTE	76	2.605	0.967	0.371	24	3.083	0.881	0.286
FIN_BUSF	76	6.882	1.404	0.204	24	7.458	1.474	0.197
FIN_ACPR	76	0.171	0.661	3.865	24	0.167	0.381	2.281
FIN_ACPD	76	1.039	0.720	0.693	24	1.000	0.417	0.417
FIN_RELAT	76	2.684	0.787	0.293	24	2.333	0.761	0.326
FIN_AUDIT	76	2.605	0.865	0.332	24	2.750	0.847	0.308
Panel C: Control Variables								
C_BLOCK	76	0.470	0.190	0.404	24	0.362	0.266	0.735
C_DOWN	76	0.138	0.185	1.341	24	0.018	0.038	2.111
C_LEV	76	1.549	2.552	1.648	24	6.679	7.101	1.063
C_RISK	75	0.196	0.247	1.260	24	0.177	0.065	0.367

Table5: Partial Correlations of Twelve Sub-categories of Transparency and Disclosure, and Control Variables

	OWN_TRAN	OWN_CONC	OWN_VOTE	FIN_BUSF	FIN_ACPR	FIN_ACPD	FIN_RELAT	FIN_AUDIT	BOARD_STRUC	BOARD_ROLE	BOARD_TRAIN	EXE_EVAL	C_BLOCK	C_DOWN	C_LEV	C_RISK
OWN_TRAN	1															
OWN_CONC	0.237*	1														
OWN_VOTE	0.081	0.054	1													
FIN_BUSF	-0.017	-0.053	0.149	1												
FIN_ACPR	0.144	-0.056	0.006	-0.004	1											
FIN_ACPD	0.150	0.179	-0.147	0.189	0.300**	1										
FIN_RELAT	0.057	0.063	0.046	0.206	-0.049	-0.150	1									
FIN_AUDIT	0.195	0.025	-0.002	0.080	-0.209	0.010	-0.055	1								
BOARD_STRU	-0.128	-0.086	0.165	-0.011	0.074	0.015	-0.180	0.292**	1							
BOARD_ROLE	0.110	0.069	0.086	0.195	0.126	-0.101	-0.027	0.028	0.070	1						
BOARD_TRAIN	-0.020	0.076	0.118	-0.046	-0.069	0.038	0.146	0.015	0.280**	0.317**	1					
EXE_EVAL	-0.034	-0.160	0.102	0.151	-0.062	0.179	0.021	0.140	-0.122	-0.022	0.134	1				
C_BLOCK	0.054	-0.084	-0.089	0.147	0.110	-0.140	-0.066	-0.012	-0.029	0.157	-0.048	-0.011	1			
C_DOWN	-0.070	0.056	0.047	-0.191	-0.057	0.096	0.204	0.163	0.053	-0.179	0.055	-0.226*	0.067	1		
C_LEV	0.128	-0.026	0.064	-0.100	-0.091	0.001	0.033	0.010	0.019	0.229*	0.008	-0.038	-0.088	-0.174	1	
C_RISK	0.081	0.056	-0.051	-0.069	-0.074	-0.115	0.021	-0.124	0.007	-0.039	-0.176	0.022	-0.060	0.074	-0.035	1

Note: *, ** Significant at the 0.05, and 0.01 level respectively.

OWN_TRAN is transparency of ownership. OWN_CONC stands for concentration of ownership. OWN_VOTE stands for voting and shareholder meeting procedure. FIN_BUSF represents business focus. FIN_ACPR represents accounting policy review. FIN_ACPD stands for accounting policy details. FIN_RELAT is related party structure and transactions. FIN_ AUDIT represents information on auditors. BOARD_STRUC stands for board structure and composition. BOARD_ROLE is role of the board. BOARD_TRAIN represents directors training and compensation. EXE_EVAL is compensation and evaluation of executive. C_BLOCK is block ownership. C_DOWN represents director ownership. C_LEV stands for financial leverage.

5.2 Regression Analysis

In Table 6, the models of ROA, Log Q, and SR provide good of fit with adjusted R2 value of 33.5%, 15.8%, and 24.8%. Their significant levels are at 0.01 for ROA and SR, but at 0.05 for Log Q. The study shows that the coefficients of FIN_ACPR are positively significantly related with all three performance measures (ROA, Log Q and SR) at significant level of 0.10.

In addition, the coefficients of FIN_ACPD are positively significantly related to ROA and SR at a significant level of 0.05. FIN_ACPD is also positively related to Log Q at a significant level of 0.10. The results show that firms with higher transparency and disclosure on accounting policy review and accounting policy detail have higher firm performance in all three aspects of firm performance: operating performance, firm value, and rate of return on common stocks.

However, the coefficient of FIN_AUDIT is significantly negatively associated with stock returns at the significant level of 0.10. This shows that the more transparency and disclosure on auditors' information, the less value of stock returns. This does not meet the expectation that firms with higher transparency and disclosure have higher firm performance. In addition, the coefficients of FIN_AUDIT are not significant related to ROA and Log Q.

Regarding to control variables, the results show that the coefficients of block ownership (C_BLOCK) and director ownership (C_DOWN) are positively related to Log Q at the significant level of 0.05. This suggests that firms with high concentration of ownership either block ownership or director ownership have higher firm value. In addition, financial leverage (C_LEV) is negatively related to ROA at the significant level of 0.05, but positively related to SR at the significant level of 0.01. This means firms with higher debt to equity ratio have lower return on assets but higher rate of return on

common stock. Finally, there is a negative relationship between firm risk (C_RISK) and

ROA and SR at the significant level of 0.01. This means that firms with lower risk have

higher returns on assets and return on common stock.

Table 6: Regression Results of the Performance Effects of Twelve Subcategories of

Transparency and Disclosure

Independent Variables	Dependent Variables / Performance Measures		
	ROA	Log Q	SR
Constant	9.077	-0.203	-0.116
	(0.427)	(0.407)	(0.784)
OWN_TRAN	-0.148	0.000	-0.016
	(0.698)	(0.955)	(0.249)
OWN_CONC	0.575	0.030	0.028
	(0.630)	(0.244)	(0.524)
OWN_VOTE	-0.879	0.005	-0.023
	(0.329)	(0.782)	(0.497)
FIN_BUSF	-0.723	0.015	0.027
	(0.259)	(0.280)	(0.261)
FIN_ACPR	2.411*	0.052*	0.099*
	(0.094)	(0.091)	(0.065)
FIN_ACPD	3.125**	0.048*	0.101**
	(0.023)	(0.100)	(0.048)
FIN_RELAT	1.260	0.021	0.018
	(0.245)	(0.364)	(0.654)
FIN_AUDIT	0.068	-0.203	-0.067*
	(0.948)	(0.306)	(0.084)
BOARD_STRUC	-1.833	-0.048	-0.054
	(0.370)	(0.273)	(0.476)
BOARD_ROLE	0.147	-0.004	-0.017
	(0.747)	(0.715)	(0.332)
BOARD_TRAIN	0.995	0.017	0.046
	(0.210)	(0.305)	(0.123)
EXE_EVAL	0.532	0.003	0.023
	(0.518)	(0.875)	(0.445)
C_BLOCK	5.450	0.191**	-0.078
	(0.173)	(0.028)	(0.597)
C_DOWN	6.331	0.274**	0.035
	(0.248)	(0.021)	(0.862)
C_LEV	-0.481**	-0.003	0.023***
	(0.020)	(0.434)	(0.004)
C_RISK	-15.326***	-0.059	-0.456***
	(0.000)	(0.470)	(0.002)
FD	-2.076	0.021	-0.078
	(0.383)	(0.682)	(0.381)

Adjusted R2	0.335	0.158	0.248
F-test	3.905***	2.083**	2.897***
(p-value)	(0.000)	(0.015)	(0.001)

Note: *, **, *** the level of significance at the 0.10, 0.05 and 0.01respectively. The levels of significance (p-value) are in the parenthesis.

6. Conclusion

Corporate governance principles have been actively promoted in Thailand. However, there is limited evidence to support the effects of corporate governance on firm performance in Thailand. Moreover, many participants in the stock markets also cast doubt on the ways to evaluate corporate governance. These reasons motivate this study.

Based on OECD framework and prior studies, transparency and disclosure is a vital component of the corporate governance. The purpose of this study is to test whether transparency and disclosure affects firm performance of SET100 firms after controlling for block and director ownerships, financial leverage, firm risk, and financial industry dummy. The performance variables are constructed by one accounting based measure (Return on Assets) and two market based measures (Tobin's Q, and Stock Returns). Transparency and disclosure variables are measured by twelve subcategories of S&P:T&D scoring systems.

The sample consists of 100 financial and non-financial firms of SET100 index announced in year 2005. SET 100 firms are chosen since they are expected to practice relatively higher standards of corporate governance relative to other listed firms. They also can be role models of corporate governance for other firms. Moreover, their total market value of equity is about eighty percent of SET.

1479

The results show that accounting policy review and accounting policy details are significantly positively related to ROA, Log Q and SR. However, information on auditors is negatively related to stock return. I believe that the reliability and timelines of accounting policy which are related to the frequency of financial reports as well as the discussion of accounting policy and procedures should improve the ability to make decision both inside and outside the organization. Unsurprisingly, firms have higher transparency and disclosure in accounting policy review and details have higher operating performance, firm value and return of common stocks. However, the negative reaction of information on auditors may be explained by that investors believe that non-audit services might compromise an auditor's independence and result in reduced quality of financial statements.

Regarding control variables, the evidence shows that a higher concentration of blockholders positively affects a firm's value. With better capability to monitor their investments, blockholders can improve firm performance. Further evidence also indicates that firms with higher director's ownership have higher firm value. The reason is that the greater the percentage of shares held by insiders, the more likely they will make decision based on the benefit of shareholders.

The coefficient of financial leverage shows that there is a positive association between debt to equity ratios and stock returns. This can be explained that investors perceive that firms can earn a greater rate of return than the cost of interest. However, debt to equity is negatively related to returns on assets. This might be because financial firms are included in the sample. Debt to equity of financial firms is quite high (6.26), thus interest on principal seems to add cost to firms.

For risks related to firms in SET 100, firms in the SET100 index have lower risks, but higher operating performance and higher rate of returns on common stocks. This

1480

could be explained by characteristics of SET100 firms. These firms are widely accepted as well governed firms compared to other firms. Usually, investors perceive these firms as having lower agency costs and more highly efficient operations.

In sum, this study provides evidence on the relationships between transparency and disclosure and firm performance of the SET 100 Thailand. Referring to the results, I would like to inform listed firms about the importance of transparency and disclosure on their performance. Furthermore, the findings would suggest to local and international regulators which part of transparency and disclosure could be used as a meaningful objective monitoring and enforcement tool. Knowing the importance of financial transparency and disclosure will inspire firms to improve the quality of their financial statements. The extension of this research might stream to other set of measurement of disclosure quantity such as the Globe and Mail, Report on Business (ROB) or the disclosure and transparency scores developed by the Institute of Directors Association of Thailand (IOD).

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Appendix A

S&P: Transparency and Disclosure Scoring System

1. Transparency of Ownership (OWN_TRAN)

1. Provide a description of share classes? (1)

2. Provide a review of shareholders by type? (1)

3. Provide the number of issued and authorized ordinary shares? (1)

4. Provide the number of authorized but non-issued ordinary shares? (1)

5. Provide the par value of issued and authorized ordinary shares? (1)

6. Provide the par value of authorized but non-issued ordinary shares? (1)

7. Provide the number of issued and authorized of preferred, non-voting, and other classes? (1)

8. Provide the number of authorized but non-issued shares of preferred, non-voting, and other classes? (1)

9. Provide the par value of issued and authorized of preferred, non-voting, and other classes? (1)

10. Provide the par value of authorized but non-issued shares of preferred, non-voting, and other classes? (1)

11. Does the company disclose the voting rights for each class of shares? (1)

2. Concentration of Ownership (OWN_CONC)

12. Top 1 shareholder(s) disclosed? (1)

13. Top 3 shareholders disclosed? (1)

14. Top 5 shareholders disclosed? (1)

15. Top 10 shareholders disclosed? (1)

16. Shareholders owning more than 10 percent are disclosed? (1)

17. Shareholders owning more than 5 percent are disclosed? (1)

18. Shareholders owning more than 3 percent are disclosed? (1)

19. Does the company disclose percentage of cross-ownership? (1)

3. Voting and Shareholder Meeting Procedures (OWN_VOTE)

20. Is there a calendar of important shareholder dates? (1)

21. Review of shareholder meetings (could be minutes)? (1)

22. Describe procedure for proposals at shareholder meetings? (1)

23. How shareholders convene an extraordinary general meeting? (1)

24. How shareholders nominate directors to board? (1)

25. Describe the process of putting inquiry to board? (1)

26. Does the annual report refer to or publish Corporate Governance Charter?

(1)

27. Does the annual report refer to or publish Code of Best Practice? (1)

28. Are the Articles of Association or Charter Articles of Incorporation published?

(1)

4. Business Focus (FIN_BUSF)

29. Is there a discussion of corporate strategy? (1)

30. Report details of the kind of business it is in? (1)

31. Does the company give an overview of trends in its industry? (1)

32. Report details of the products or services produced/provided? (1)

33. Provide a segment analysis, broken down by business line? (1)

34. Does the company disclose its market share for any or all of its businesses?

(1)

35. Does the company report basic earnings forecast of any kind? (1)

36. Does the company report basic earnings forecast of any kind in detail? (1)

37. Disclose output in physical terms? (1)

38. Does the company give an output forecast of any kind? (1)

39. Does the company give characteristics of assets employed? (1)

40. Does the company provide efficiency indicators (ROA, ROE, etc.)? (1)

41. Does the company provide any industry-specific ratios? (1)

42. Does the company disclose its plans for investment in the coming years? (1)

43. Does the company disclose details of its investment plans in the coming

years? (1)

5. Accounting Policy Review (FIN_ACPR)

44. Provide financial information on a quarterly basis? (1)

45. Does the company discuss its accounting policy? (1)

46. Does the company disclose accounting standards it uses for its accounts?

(1)

47. Does the company provide accounts according to the local accounting

standards? (1)

48. Does the company provide accounts in alternate internationally recognized

accounting methods? (1)

49. Does the company provide each of the balance sheets by internationally

recognized methods (1)?

50. Does the company provide each of the income statements by internationally

recognized methods? (1)

51. Does the company provide each of the cash-flow statements by

internationally

recognized methods? (1)

52. Does the company provide a reconciliation of its domestic accounts to

internationally recognized methods? (1)

6. Accounting Policy Details (FIN_ACPD)

53. Does the company disclose methods of asset valuation? (1)

54. Does the company disclose information on method of fixed assets depreciation? (1)

55. Does the company produce consolidated financial statements? (1)

7. Related Party Structure and Transactions (FIN_RELAT)

56. Provide a list of affiliates in which it holds a minority stake? (1)

57. Does the company disclose the ownership structure of affiliates? (1)

58. Is there a list/register of related party transactions? (1)

59. Is there a list/register of group transactions? (1)

8. Information on Auditors (FIN_AUDIT)

60. Does the company disclose the name of its auditing firm? (1)

61. Does the company reproduce the auditors' report? (1)

62. Disclose how much it pays in audit fees to the auditor? (1)

63. Disclose any non-audit fees paid to auditor? (1)

9. Board Structure and Composition (BOARD_STRUC)

64. Is there a chairman listed? (1)

65. Detail about the chairman (other than name/title)? (1)

66. Is there a list of board members (names)? (1)

67. Are there details about directors (other than name/title)? (1)

68. Details about current employment/position of directors provided? (1)

69. Are details about previous employment/positions provided? (1)

70. Disclose when each of the directors joined the board? (1)

71. Classifies directors as an executive or an outside director? (1)

10. Role of the Board (BOARD_ROLE)

72. Details about role of the board of directors at the company? (1)

73. Is there disclosed a list of matters reserved for the board? (1)

74. Is there a list of board committees? (1)

75. Review last board meeting (could be minutes)? (1)

76. Is there an audit committee? (1)

77. Disclosure of names on audit committee? (1)

78. Is there a remuneration/compensation committee? (1)

79. Names on remuneration/compensation committee? (1)

80. Is there a nomination committee? (1)

81. Disclosure of names on nomination committee? (1)

82. Other internal audit-function besides audit committee? (1)

83. Is there a strategy/investment/finance committee? (1)

11. Director Training and Compensation (BOARD_TRAIN)

84. Disclose whether they provide director training? (1)

85. Disclose the number of shares in the company held by directors? (1)

86. Discuss decision-making process of directors' pay? (1)

87. Are specifics of directors' salaries disclosed (numbers)? (1)

88. Form of directors' salaries disclosed (cash, shares, etc.)? (1)

89. Specifics disclosed on performance-related pay for directors? (1)

12. Executive Compensation and Evaluation (EXE_EVAL)

90. List of the senior managers (not on the board of directors)? (1)

91. Backgrounds of senior managers disclosed? (1)

92. Number of shares held by the senior managers disclosed? (1)

93. Disclose the number of shares held in other affiliated companies by managers? (1)

1488

94. Discuss the decision-making of managers' (not board) pay? (1)

95. Numbers of managers' (not on board) salaries disclosed? (1)

96. Form of managers' (not on board) salaries disclosed? (1)

97. Specifics disclosed on performance-related pay for managers? (1)

98. Details of the CEO's contract disclosed? (1)

RISK SIGNAL, FINANCIAL DERIVATIVES TRANSACTIONS AND THE INDONESIAN GAAP

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Abstract

Motivated by the accounting events of firm's default related to derivatives and other financial instruments transactions, this study is aimed to investigate the capability of accounting information to signal the risks associated with the use of financial derivatives for hedging. Hypothesis are developed based on the theory and empirical evidences of manager's motive to use derivatives for hedging (Berkman and Bradbury, 1968; Dune et al., 2003) as well as signaling theory of accounting information (Ball and Brown, 1968; Beaver and Dukes, 1972; Jensen and Meckling, 1976; Megginson, 1997). The hypotheses are formulated in the Ordinary Least Square model. The study uses SPSS version 14 as software to conduct the statistical tests. Non-bank and non-financial institutions firms with financial derivatives transactions listed in Indonesian Stock Exchange during 2001 to 2006 are chosen as the sample. Determinations of the time frame has considered the timing of introduction of revisions of accounting standard on derivatives and other financial instruments in Indonesia PSAK 50 "Financial Instruments: Presentations and Disclosures" which was published in 15 July 1998, as well as PSAK 55 "Financial Instruments: Recognition and Measurements" which was published in 21 September 1998.

Based on the sample selections procedure and the completeness of the data required by the model, 24 firms listed during 2001 – 2006 or equal to 66 firm-years observations were identified as the data to be tested. Empirical evidences suggests that Indonesian GAAP is capable of providing signal associated with: (i) fair value exposures related to manager's motive to reduce the cost of financial distress; (ii) cash flow exposures related to manager's motive to practice tax arbitrage as well as to overcome underinvestment problems; (iii) interest rate risks related to manager's motive to avoid the risk default due to limitations of debt covenants; (iv) forex risk related to manager's motive to control forex exposures caused by foreign operations as well as foreign sales.

n the future, to increase results generalizations, research should be conducted to be more inclusive, covering all the firms with and without financial derivatives. In addition, more specific enquiries should be conducted to check the capability of PSAK 50 and PSAK 55 in providing the risk signals related to the use of derivatives and other financial instruments.

I.   Introduction

The trace of derivatives in the context of corporate finance start in form of capital instruments, in particular are shares and debt securities. From the contractual perspectives, shares and debt securities has clear distinction in terms of financial cost (i.e., dividend for shares and interest for debt). In addition, from accounting earnings perspective, they have diverse implications on tax and financial performance. However, the difference from economic terms most likely to be less clear (Davies et al., 1994). This is due to development and growing complexity of capital instruments that characterized both equity and debt, such as redeemable preference shares (i.e., substantially it is resemble more as debt than equity), convertible bonds (i.e., closer to the nature of equity than debt, even before conversion occurred), or securities with its valued tied to debt value like Market Based Securities (MBS).

Rapid development and growing complexity create challenges for accounting profession to put balance judgment on competing considerations of substance over form when accounting for financial instruments. Previous studies (i.e., Beaver and Dukes, 1972; Ball and Brown, 1968) suggested that residual changes in stock prices were highly associated with residual changes in earnings. One interpretation is that accounting earnings are perceived to be the best approximation of economic value of the firm, in term of stock price. This means that the economic substance matter the most on the reporting earnings. However, the fact that fundamental distinction of capital instruments is rooted in legal form is more likely to cause fair judgment on economic substance more difficult for the accounting profession. The issues regarding economic substance versus legal form generate problems for accounting profession as well as accounting information to accommodate achievement of efficient contracting cost.

The expected role of accounting in the efficient agency contract seemed to be compromised when looking at inability of accounting information to immediately detect the existence of derivatives related financial scandals in the past (Winograd, et al, 1995). This relates to the potential use of financial derivatives to hedge the market risk, but at

the same time, could also be used for 'gambling' (i.e., engage in trading derivatives without any link to underlying assets/liabilities which expose the company to unlimited downside risk). Most importantly, unless manager provide sufficient disclosure regarding their intention, the financial market allows manager to switch between hedging and trading purpose to go unnoticed in the financial statements. Hence, the *'off-balance-sheet'* nature of financial derivatives instruments allow the financial risk to be concealed until the uncontrollable problem suddenly appeared.

Some major issues surrounding accounting and reporting for financial derivatives and other financial isntruments, among others, are:

i. Financial derivatives could be used for trading (i.e., profit seeking activities) or for hedging (i.e., to manage the financial risk exposure). The effect of hedging versus trading derivatives transactions is contradictory. Derivatives hedging stabilize earnings, while derivatives trading increase earning volatility.

ii. Financial derivatives need only small upfront investment, while the down-side risk could be unlimited. The unlimited down-side risk especially happen when there are no underlying assets associated with the financial derivatives transactions, as in the case of financial derivatives trading to gain profit. Therefore, disclosures regarding managements' intention to use derivative (i.e., for trading or hedging) is critical to increase transparency of risk exposures associated with financial derivative transactions. However, there is timing incompatibility between management intentions for using derivatives in on one hand, and financial reporting on the other hand. Management intentions could change easily anytime dependent upon the opportunity of market movement, while, in contrast, accounting information is reported periodically. Therefore, some argued that although management has good intention to report the transactions, yet, accounting information is naturally incapable of reporting risk exposure associated with derivatives transactions.

iii. Being a financial instruments, financial derivatives transaction involving fair value measurements. The accuracy of fair value measurements depends on the availability of market value, as well as frequency of trading activities in the '*arm's length transactions*' (i.e., investors' decisions to sell, buy or hold are purely based on rational considerations, free from conflict of interest or forces of any kinds). Fair value measurements become problematic during the financial market crisis such as occurred in the 2007. In such situation, most of the parties willing to sell and only a few willing to buy. This condition leads to unprecedented decreasing market value for almost all the traded financial instruments. To contain further damage, some regulators suspended trading activities, hoping for the market to regain confidence. Practicing fair value measurements in these circumstances needs benchmark other than the market,such as the quantitative models provided by management. However, accuracy and reliability of the model is often difficult to be assessed objectively. In the case where the model is absence, financial instruments are valued by their historical cost. This is problematic in the market that is severely distressed, in which historical cost is often higher than the distressed market value. To present historical cost bigger than market value is inconsistent with conservatism principles, where the lowest value between market and historical cost should be choose for the purpose of accounting report.

iv. Even in the normal market circumstances, where 'arm's length transactions' could be practiced, reporting unrealized gains and losses associated with fair value measurement of financial derivatives is also problematic. Although there is a clear distinction between reporting gains/losses due to trading (i.e., charged directly to current Profit and Loss Statements) and hedging activities (i.e., deferral accounting is acceptable), yet the ways deferral accounting should be practiced are still in disputes, including: (i) what are the criteria that differentiate hedging from trading, so that one is entitled to apply hedge accounting?; (ii) where should unrealized gains or loss be reported, in the balance sheet or in the comprehensive income? (iii) if they are to be reported in the balance sheet, should they be reported as parts of underlying

assets/liabilities, or should they be charged directly to the equity section? (iv) if they are to be reported in the balance sheet, are netting-off presentation (i.e., direct off-set between unrealized gains or loss originated from the hedge contract and underlying assets/liabilities) acceptable?; (v) how do de-recognized hedge positions?

Investigation of the financial Accounting Standard in Indonesia context would be quite interesting for the some reasons. Mainly, despite growing importance of derivatives and other financial instruments in the corporate finance practice in both global as well as national level, yet, financial default related to the use of financial derivatives continue to be happened. This leads to the major doubt regarding the capability of financial accounting information to provide signal regarding risks related to the use of financial derivatives.

Considering the contrasting effects of financial derivatives use for hedging and trading on one hand, and the role of accounting information used by managers to signals firm's performance on the other hand, this research is aimed to investigate the capability of accounting information to provide signal regarding risk associated with financial derivatives and other financial instruments in the context of Indonesian capital market. More specifically, this research would investigate whether the market could appreciate the use of financial derivatives for hedging purpose using accounting information prepared based on Indonesian GAAP.

II.   Theoretical Framework and Hypotheses Development

II.1.   Manager's Motives to Use Financial Derivatives for Hedging
Berkman and Bradbury (1996) argue that, risk management can add value to a firm when capital market is imperfect. This provides incentives for managers to practice risk management by using financial derivatives, aimed at increasing firm's performance. Accordingly, the managers' motives to use financial derivatives are to manage risk exposures, including interest rate risk, foreign exchange risk, credit risk, fair value risk and cash flow exposure. More specifically, the corporate (i.e., manager) motive to use derivative hedging are as follows:

1. To reduce the expected cost of financial distress (Mayer and Smith, 1982; Smith and Stulz, 1985) in which manager presumably use financial derivatives to manage fair value exposure, cash flow exposure and interest rate risk.

2. To practice tax arbitrage and reduce the expected tax charge (Mayers and Smith, 1982; Smith and Stultz, 1985) in which manager most likely to use financial derivatives to manage cash flow exposure.

3. To reduce agency cost associated with underinvestment problem (Mayers and Smith, 1987; Bessembinder, 1991) due to increased volatility of future cash flows or short-term liquidity constraints (Froot *et al*., 1993) in which manager presumably use financial derivatives to mitigate fair value exposure, cash flow exposure and interest rate risk.

4. To accommodate managerial self interest (i.e., to gain high and stable bonus) and risk aversion (i.e., to avoid debt covenant violation) as argued by Smith and Stultz (1985) as well as Dunne et al., (2003), in which manager most likel to use financial derivatives to manage fair value exposure and credit risk.

5. To overcome the short term liquidity constraint (Berkman and Bradbury, 1996), in which manager presumably use financial derivatives to manage cash flow exposure.

6. To manage foreign currency exposure (Berkman and Bradbury, 1996), in which manager most likely to use financial derivatives to manage foreign exchange risk.

The study of Berkman and Bradbury (1996) on all domestic and non financial services firms in New Zealand which held derivative financial instruments at the 1994 balance sheet date find that none of the sample firms used derivatives for speculative purposes. In addition, the study develops and test the hypotheses based on the theory of financial derivatives hedging explained above. Accordingly, the empirical evidence suggested that firms with financial derivatives have specific characteristics, such as: (i) tend to be larger; (ii) have higher leverage; (iii) less liquid; (iv) have greater dividend pay out; (v) have higher use of quasi-equity (i.e., convertible debt) in their capital structure; (vi) have

bigger tax losses carried forward; (vii) have higher long term growth prospects; and (viii) have higher involvement in overseas activities.

Other study done by Dunne et al. (2003) tested 210 listed firms in UK right after introduction of Financial Reporting Standard on Derivatives and Other Financial Instruments No. 13 (FRS 13) in 1998. Some results of Dune et el.'s study (2003) consistent with Berkman and Bradbury's (1996) findings on firm's characteristics, where firms which use financial derivatives for hedging are larger and have higher involvement in overseas activities. In addition, although supported by less strong predictors, the empirical findings suggest that firms use financial derivatives to reduce risk of financial distress and overcome the underinvestment problems.

II.2.   Signalling Theory

Signalling theory emanate from the context of agency theory, in which firm's ownership is separated from its management (Jensen and Meckling, 1976). Further, manager supposed to act as an agent for the benefit of owner who act as principals, by maximizing the firm's value. Such agency relationship incorporates several problems, among others: (i) agency costs; (ii) information asymmetry; (iii) moral hazards; and (iii) adverse selection.

Agent and principals as individuals have their own self-interest, which might be conflicting with others. Contracts between agent and principals are set to protect and bond interests of all the parties involved in the agency relationship. However, no one could make the perfect contract that could fully protect self-interest of the contracting parties involved. This leads to the practice of manager's moral hazard, in which managers try to maximize their self-interest (i.e., utility value) at the cost of firm's value (i.e., adverse selection). Manager's moral hazard to a great extent is due to the condition of information asymmetry favourable for manager who involve in daily operations of the firm. On the other hand, although principals own the firms, yet their access to

information is limted to the information provided by monitoring systems only. Although principals have set bonding contract and monitoring system to protect their self-interests, still, the probability of managers' adverse selection at the costs of principals' interests could never been fully eliminated (i.e., residual loss). For that reasons, agency costs are assumed to be consisted of three kinds of costs: (i) bonding cost; (ii) monitoring costs; and (iii) residual loss.

Due to the assumed condition of information asymmetry, potential investor of public companies use information provided by the monitoring system to asses firm's value. Accounting information provided in the financial statements is considered as one of the most prominent and reliable monitoring system. In the light of these circumstances, managers try to provide signal of firm's performance via financial statements, both directly (i.e., via narrative disclosures) and indirectly (i.e., via accounting numbers), so that firm's value would be more consistent with its performance.

Scott (2006) provide some empirical evidence from public companies in US suggesting that to maintain high equity positions, some managers purposely hold bad news and tend to disclose good news. In addition, high level of leverage often interpreted as signal for good performance, as only companies with good performance are capable of taking such a high leverage risk. Therefore, high-leverage firms are valued higher by investor compared to low-leverage firms (Megginson, 1997).

II.3.   Hypothesis Development

Based on the theory of corporate motive of financial derivatives use as well as signaling theory of accounting information, this study argue that when firms used financial derivatives in their business operations, the firms' performance is associated with factors that motivate managers to use financial derivatives. If financial derivatives are used for hedging purpose, then, firm's value is expected to be more stable. This leads to the following propositions:

Firm's performance is positively associated with manager's motive to use financial derivatives to mitigate fair value risk, cash flow risk, interest rate risk, credit risk and foreign exchange risk.

Firm's performance is defined as volatility of firm's value, assuming that general aim of derivatives use for hedging purpose is to mitigate risks, which resulting in increased stability of firm's value. More specifically, managers' motive to use financial derivatives is hypothesized as follows.

II.3.1. Managers' Motive to Reduce the Cost of Financial Distress.

Financially distressed firms have higher variance of firm's value hence tend to have higher cost of capital (Mayer and Smith, 1982; Smith and Stulz, 1985). To reduce the probability of financial distress (i.e., mitigating the fair value exposure, cash flow exposure and interest rate risk) firms use derivatives hedging aimed at lessening the variance of firm's value and reducing the cost of capital. Based on that argument, the first hypothesis suggested is as follows:

H_1 : Volatility of firm's value is positively associated with cost of capital

II.3.2. Manager's Motive to Reduce Income Tax

Under progressive tax rate, firms with high income volatility are having average tax higher than firms with stable income. For example, in the two consecutive years, due to different tax bracket, firms with loss of Rp. 1 billion,- in the first year and has a profit of Rp.1 billion,- in the second year would pay higher average tax compared to firms which has a profit of Rp.0.5 billion each year. Although cumulative income for these two different firms are equal (i.e., Rp. 1 billion in total), yet, the firm that having profit of Rp. 1 billion would pay higher tax due to the higher rate applied for higher level of income. Accordingly, firms are using financial derivatives hedging to smooth earnings and reduce average tax charge (i.e., mitigating cash flow risk exposure). Hence, progressive income

tax provides incentives for manager to practice tax arbitrage by using financial derivatives for hedging. Therefore, the second hypothesis is as follows:

H2 : Volatility of firm's value is negatively associated with tax arbitrage

II.3.3. Managers' Motive to Overcome Underinvestment Problems

As agent to shareholders, managers might forgo positive Net Present Value project if the gains accrue primarily to debt-holders (i.e., underinvestment problems). This circumstance provide incentives for managers to use derivatives to hedge cash flow exposures, so that the underinvestment problems could be overcome, but at the same time, could also increase the residual claim for shareholders in the future. Accordingly, the third hypothesis is as follows:

H3 : Volatility of firm's value is positively associated with the volatility of future cash flow

II.3.4. Manager's Motive to Mitigate Default-risk as well as Accommodate their Self-interest

If hedging could increase firm's value by reducing its variability, and managers' wealth is dependent on firm's value, then, managers have incentives to use financial derivatives hedging for default-risk aversion as well as to accommodate their economic self-interest. One of risk associated with firm's default is restriction in debt covenants. Accordingly, when firms violate the restriction, then most probably that firm's value would be deteriorated. In addition, as bonus level is often tied to earnings level, manager use financial derivatives to maintain high level of earning. Therefore, the fifth and seventh hypotheses are as follows:

H41 : Volatility of firm's value is positively associated with level of leverage

H$_{42}$: Volatility of firm's value is positively associated with earnings level

II.3.5. Manager's Motive to Overcome Short-term Liquidity Constraint

Manager could resolve conflict of interest between shareholders and debt-holders by implementing low dividend pay-out policy, so that plenty of funds available to pay the fixed claimholders, and the same time, maintaining sufficient liquidity as a means of financial buffers. Accordingly, firms have incentive to use financial derivatives to hedge cash flow risk exposure, maintain stable cash flow and overcome short term liquidity constraint. Based on this argument, the fourth hypothesis is as follows:

H$_5$: Volatility of firm's value is positively associated with short-term liquidity constraint

II.3.4. Manager's Motive to Hedge Foreign Exchange Exposure

Compared to others, firms with overseas operations have higher proportion of forex assets and liabilities relative to its equity, and also, they tend to have higher forex sales proportion. Therefore, they presumably have higher exposures to foreign exchange risk. Accordingly, these kinds of firms tend to use financial derivatives to hedge foreign exchange exposure. Therefore, hypothesis six is as follows:

H$_{61}$: Volatility of firm's value is negatively associated with the net open position between foreign assets and foreign liabilities.

H$_{62}$: Volatility of firm's value is positively associated with proportion of foreign sales

III. Research Methods and Methodology

III.1. Hypotheses Testing

The hypotheses would be tested using the Ordinary Least Square (OLS) regression method based on the following model:

$$Y_1 = a + b_1(X_1) + b_2(X_2) + b_3(X_3) + b_{41}(X_{41}) + b_{42}(X_{42}) + b_5(X_5) + b_{61}(X_{61}) + b_{62}(X_{62}) + \varepsilon,$$

Most of the variables used in the model are adopted from Berkman and Bradbury's study (1996), as defined as follows:

Y_1:   Firms performance (VOL), defined as annualized 30 day volatility of stock return (%)

X_1:   Cost of capital (STRESS), defined as interest expense to total debt ratio (%)

X_2:   Tax arbitrage (TARBIT), defined as ratio of earnings growth/tax growth (%)

X_3:   Volatility of future cash flow (UNINV) defined as ratio of working capital of year n to year n-1 (%)

X_{41}:   Restriction of debt covenant (DER) defined as debt to equity ratio (%)

X_{42}:   Manager's self-interest (MSINT) defined as Ln Earnings Before Interest and Tax/ EBIT

X_5:   Short term liquidity constraint (DIVPR) defined as dividend pay out ratio (%)

X_{61}:   Net open position between foreign assets and foreign liabilities (NFNOPEN) defined as ratio of net open position in foreign currency to total equity (%)

X_{62}:   Proportion of forex sales (FNSALES) defined as ratio of forex sales to total sales (%)

ε: error term

Statistical software SPSS version 14 is used to test the model. General hypothesis of the data is defined as $H_0: b \neq 0$ and $H_A = 0$.

The use of OLS method in hypotheses testing requires several assumptions to satisfy First, OLS assumes the data to be normally distributed. Second, there is no association among independent variables (i.e., no multicollinearity). Finally, the effect of variability of individual company has been addressed (i.e., random effect and fixed effect)

III.2. Sample Selection and Data Description

Non-probability sampling method (i.e., purposive sampling method) is applied to choose non-bank and non-financial institutions companies listed in Jakarta Stock Exchange predicted to be significantly involved in financial derivatives transactions. The observation covers 5 years period when the PSAK 50 (i.e., accounting standar "Financial Instruments: Presentations and Diclosures" published on 15 July 1998) and PSAK 55 (i.e., accounting standard "Financial Instruments: Recognition and Measerements" published on 21 September 1998) have been effective, which is from 2001 to 2006.

Examination of notes to financial statements on particular account predicted to be associated with risk exposures (i.e., financial assets, financial liabilities and sales) was conducted to identify firms predicted to be significantly involved in financial derivatives transactions. Further, the study assumes that risk exposures are sustained as the risks are associated with firms' business process. Hence, when the examination showed that firms disclose the use of financial derivatives on year 2006, it was assumed that the firms had been using the financial derivatives since year 2001. Based on the sample selection procedure, 73 (seventy three) companies listed during 2001 to 2006 were identified, resulting 438 firms-years pooled data available for observations before data cleaning. The research used Bloomberg database as data source. Descriptive statistic for the variables identified by the SPSS software is shown in the following table.

Table 1
Statistic Descriptive
Dependent and Independent Variable of the Identified Sample

	DEPN.VAR	INDEPENDENT VARIABLES							
	VOL30	STRESS	TABIT	UNINV	DER	MSINT	DIVPR	NFNOPEN	FNSALES
N - Valid	369	385	344	350	415	356	416	146	113
N - Missing	69	53	94	88	23	82	22	292	325
Mean	57.14	9.26	2.25	0.66	395.49	10.89	26.44	70.70	42.9573
Median	45.74	7.31	0.63	-0.01	72.47	11.71	10.40	-11.87	29.3283
Std. Deviation	34.38	13.64	27.76	18.30	4,492.08	3.46	50.61	913.75	37.96924
Variance	1,182.11	186.08	770.45	334.79	20,178,799.34	11.96	2,561.58	834,930.86	1441.663
Skewness	1.92	12.47	16.35	7.08	19.93	-1.38	5.13	10.83	0.6
Minimum	4.96	0.00	-55.53	-151.05	0.00	0.78	0.00	-1,089.75	0
Maximum	219.74	236.53	493.91	214.49	90,991.82	16.89	473.35	10,631.15	163.67

The table above shows that dependent variable VOL30 is highly dispersed, range from the minimum 4.96 to the maximum 219.74. Notably, the variance is quite high, which is 1,182.11, far above standard deviations of 34.38 and mean of 57.14. Most of the independent variable are highly skewed, except for MSINT and FNSALES, which are -1.38 and 0.6 consecutively. Correlations among variables in the model are presented in Table 2 below.

		STRESS1	FNSALES	NFNOPEN	VOL30	TABIT	UNINV	MSINT1	DIVPR	DER
STRESS1		1	-0.078	-0.056	0.057	-0.015	0.01	0.076	.109(*)	0.038
			0.209	0.251	0.15	0.394	0.427	0.088	0.018	0.234
	N		110	144	331	304	320	320	367	366
FNSALES			1	.269(**)	.234(**)	0.12	-0.005	-0.025	-.207(*)	0.056
				0.004	0.008	0.112	0.48	0.406	0.015	0.281
	N			94	106	105	110	93	110	109
NFNOPEN				1	0.036	-0.039	0.003	0.003	-0.009	.178(*)
					0.336	0.328	0.485	0.488	0.459	0.018
					139	131	137	126	142	140
VOL30					1	.152(**)	-0.008	-.129(*)	-.114(*)	-0.014
						0.004	0.443	0.012	0.016	0.398
	N					300	302	302	355	354
TABIT						1	-0.043	-0.011	-0.007	0.026
							0.216	0.424	0.448	0.317
							333	285	338	330
UNINV							1	-0.004	-0.002	-0.01
								0.474	0.485	0.424
	N							293	344	336
MSINT1								1	-.093(*)	0.005
									0.041	0.465
	N								346	348
DIVPR									1	-0.035
										0.239
	N									404
DER										1
	N									415

* One tailed-test - significant at 5% level

** One tailed test - significant at 1% level

The results of Pearson correlations statistical test above shows some significant correlations between dependent variable VOL30 with independent variables as follows: (i) positively correlated with tax arbitrage (TABIT) at 1% level, cosistent with H2; (ii) negatively correlated with earnings level (MSINT) at 5% level, consistent with H42; (iii) positively correlated with short term liquidity constraint (DIVPR) at 5% level, consistent

with H5; and (iv) positively correlated with the proportion of foreign sales (FNSALES) at 1% level, consistent with H62.

SPSS check the completeness of the variables included in the model, resulting 24 firms left or equal to 66 firm-years data to be tested in the model. Descriptive statistic for the data included in the model after cleaning the outlier data (i.e., 3 standard devitation) is presented in the table below.

Table 3
Statistic Descriptive
Dependent and Independent Variable of the Data Tested (N=66)

N=66	DEPN.VAR	INDEPENDENT VARIABLE							
	VOL30	STRESS	TABIT	UNINV	DER	MSINT	DIVPR	NFNOPEN	FNSALES
Mean	52.70	7.49	0.73	3.56	196.45	10.94	16.71	-31.50	43.39
Std. Dev.	28.62	6.94	3.52	26.43	722.93	3.25	16.58	183.85	34.60

Notably, Table 3 shows some differences of the central tendency statistics (i.e., the value of means and standard deviations) of the data included in the model compared to the original data previously presented in Table 1, most particularly for the data with high skewness level. Presumably, this relates to the data distribution included in the model, which is better normally distributed compared to the original data.

IV.   Empirical Results, Analysis and Interpretation

The results of OLS regression is presented in the Table 4 below

Table 4
The Results of OLS Regression
(Dependent Var.: VOL30)

Independent Variables	Standardized Coefficients	t	Sig.	Collinearity Statistics	
	Beta			Tolerance	VIF
(Constant)		2.433	0.02		
STRESS	0.492	5.085	0.00**	0.959	1.043
TABIT	-0.407	-2.874	0.01**	0.447	2.238
UNINV	-0.112	-1.161	0.25	0.971	1.029
DER	0.661	3.512	0.00**	0.253	3.947
MSINT	-0.04	-0.412	0.68	0.953	1.049
DIVPR	-0.116	-1.071	0.29	0.759	1.317
NFNOPEN	-0.375	-2.111	0.04*	0.285	3.512
FNSALES	0.343	3.425	0.00**	0.897	1.115

*   Significant at 5% level
** Significicnat at 1% level

o   The variables included in the model are defined as follows: (i) VOL30: firms performance, defined as %`annualized volatility of stock return; (ii) STRESS: expected cost of financial distress, defined as % cost of debt; (iii) TABIT: tax arbitrage, defined as % of growth in net income to growth in inome tax; (iv) UNINV: volatility of future cash flow, defined as % of working capital of year n to year n-1; (v) DER: restriction of debt covenant, defined as % of debt to equity; (vi) manager self interest, defined as Ln earnings before interest and tax; (vii) DIVPR: short term liquidity constraint, defined as dividend pay out ratio (%) ; (viii) NFNOPEN: proportion of forex assets and liabilities, defined as % of net open position in foreign currency to total equity; (ix) proportion of forex sales, defined as % of forex sales to total sales.

o   The model is statistically significant at less than 1% level, with R-square is 48.83% and adjusted R-square is 41.65%

o   The results of Durbin-Watson test is 1.98 at less than 1% level, suggesting that no autocorrelation of the residuals. Hence, no indication of underestimation on the level of statistical significance.

o   The result of collinearity test suggests that no multicollinearity problems found in the model, in which Tolerance value is close to 1 and VIP value is less than 10

Empirical results presented in Table 4 suggest that for firms using financial derivatives instruments in Indonesian context, their volatility of market return is: (i) positively influenced by the cost of capital as stated in H1; (ii) negatively influenced by tax arbitrage as stated in H2; (iii) positively influenced by restriction of debt covenant as stated in H41; (iv) negatively influenced by the net open position of forex (v) positively influenced by the proportion of foreign sales, as stated in H62. Hence, test results of the data suggest that H3, H42 and H5 are rejected. Apparently, volatility of future cash-flow, earnings level and short-term liquidity constraint do not influence volatility of firm value.

As hypothesized, the empirical findings indicate that in Indonesia, firms (i.e., managers) use financial derivatives for the following purposes: (i) to reduce the probability of financial distress aimed at lessening variance of firm's value and reducing the cost of capital; (ii) to smooth earnings and reduce average tax charge; (iii) to reduce default-risk related to restriction of debt covenants; (iv) to reduce forex risks exposure associated with foreign operations and foreign sales. This means that under the current GAAP, accounting information has a capability to signal risk associated with: (i) fair value exposure related to the cost of capital; (ii) cash flow exposure related to tax arbitrage as well as underinvestment problems; (iii) interest rate risk related to limitations of debt covenants; (iv) forex risk related to foreign operations and foreign sales.

V.   Research Limitations and Suggestions for Future Research

The purposive sampling method in this study excludes firms without financial derivatives from the investigations. This relates to the assumptions of managers' motive which use financial derivatives to hedge certain types of risks. However, hedging could also be done naturally without using financial derivatives. Therefore, future research should investigate whether Indonesian GAAP could also capable of signal the risk for the firms that use natural hedging to mitigate the risks. This would involve inclusion of all non bank and non financial institutions listed firms as the sample. If financial derivatives are

preferred to natural hedging, then, it is expected that certain accounting measures used in this model for firms with financial derivatives would be significantly different to firms without financial derivatives.

In addition, future research should also investigate the capability of accounting standard that specifically addressed financial derivatives and other financial instruments (i.e., PSAK 50 "Financial Instruments: Presentation and Disclosures" and PSAK 55 "Financial Instruments: Recognition and Measurements") to signal the associated risks. This is important, considering the big effort conducted to improve accounting standard on derivatives and other financial instruments in the national as well as international level, besides the continuing failure of accounting information to signal firm's default associated with derivatives and other financial instruments. Currently, PSAK 50 and PSAK 55 have undergone some major revisions aimed to be more aligned with IAS 32 and IAS 39 of International Financial Reporting Standards. The revised versions were planned to be effective by the beginning of year 2009. However, due to recent global financial crisis, in which most of the capital markets were highly distressed, then, implementation of the revised version of PSAK 50 and PSAK 55 were delayed until the early 2010.

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AUDIT COMMITTEE ATTRIBUTES, FINANCIAL DISTRESS AND THE QUALITY OF FINANCIAL REPORTING IN MALAYSIA

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ABSTRACT

Audit committee effectiveness remains one of the significant themes in corporate governance debates. We examine the association between audit committee characteristics, financial distress and the quality of financial reporting. This study is one of the few studies that overcome the imprecision inherent in the abnormal accruals/earnings management models as a proxy of the financial reporting quality, by using a more direct measure of financial reporting quality. The evidence suggests that the desirable characteristics which the policy makers believe would enhance the effectiveness of the audit committee in carrying out its financial oversight responsibilities do not seem to yield the intended consequence. The significant finding on the association between financial distress and financial reporting quality reinforces the importance of including distress variable in future corporate transparency study.

JEL code: G32

Keywords: Audit committee, financial reporting quality, Malaysia

INTRODUCTION

In the wake of a series of highly publicized accounting scandals around the world (see, for example, Enron and Worldcom in the US, Parmalat, Ahold, Gescartera and BBVA in Europe and Transmile in Malaysia), the effectiveness of audit committee in monitoring the financial reporting process is one of the significant themes in corporate governance debates (Gendron & Bedard, 2006). These high profile governance failures have led to the introduction of significant corporate governance regulatory reforms, which focused on the structures of audit committee, to improve the quality of governance over financial reporting. For example, the Blue Ribbon Committee (1999) in the US recommends a minimum size of three audit committee members, the independence of the board members who serve on the audit committee, and financial expertise of the audit committee members [266]. The Sarbanes Oxley Act (2002) or SOX brings further improvements in the corporate governance environment with audit committees that are substantially more active and diligent and possessing greater expertise and power to fulfill its expanded responsibilities (Cohen, Krishnamoorthy, & Wright, 2009). SOX requires that all audit committee members be independent and that the company's annual report disclose whether a member of the audit committee is a financial expert (Engel, Hayes, & Wang, 2009). SOX also stipulates that audit committees appoint, compensate, and oversee the external auditor (Section 301).

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[266] The Blue Ribbon Committee (BRC) was established by the National Association of Securities Dealers and New York Stock Exchange at the behest of Arthur Levitt, the then Chairman of the Securities and Exchange Commission (SEC). SEC subsequently adopted certain recommendations by the BRC with effect from Dec 15, 2000.

The situation in Malaysia with regards to audit committee is not much difference from the US. Since 1994, the Bursa Malaysia Listing Requirements have required a listed company to appoint an audit committee which meets the following requirements; (1) must be composed of not fewer than three members; (2) a majority of the audit committee must be independent directors; and (3) at least one member of the audit committee must be a member of the Malaysian Institute of Accountants (MIA) or possesses sufficient accounting experience and qualification, or deemed "financially literate" by the stock exchange.[267] In the 2007 enhancements to the voluntary Malaysian Code on Corporate Governance (2001), it is stipulated that all audit committee members to be non-executives and financially literate with at least one of them is a member of an accounting association or body.

Beasley, Carcello, Hermanson, & Neal (2009) note that the bulk of past studies which examine the efficacy of the audit committee attributes as proposed by the regulators mainly focused on the association between certain audit committee inputs (e.g. audit committee member independence, expertise and diligence) and financial reporting outputs. They conclude that these quantitative studies generally find that a more independent, expert and diligent audit committee is associated with higher quality financial reporting and auditing. However, the recent corporate governance disaster at Hollinger International Inc. despite having audit committee members who possess all the desirable attributes (financially literate, independence and meet frequently) and Enron

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[267] The Bursa Malaysia Corporate Governance Guide (2009) defines a member of audit committee as financially literate if he/she has the ability to read and understand financial statements, ability to analyze financial statements and ask pertinent questions about the company's operations against internal controls and risk factors, and ability to understand and interpret the application of approved accounting standards (p. 56).

where "The audit committee followed all the rules – but it let the shareholders down" (Business Week, 2002, p. 28), triggers them to probe deeper into "Do audit committee appear to provide substantive oversight of financial reporting, or do they appear to be primarily ceremonial bodies designed to create legitimacy?" Through in-depth interviews with audit committee members, they reveal that audit committee practices contain a mixture of substantive monitoring of financial reporting and ceremonial practices, consistent with Cohen, Krishnamoorthy, & Wright (2002) who document that audit partners generally perceive "audit committees are ineffective and are not powerful enough to resolve contentious matters with management" (p. 586).

Another stream of emerging research focused on whether audit committee members who are independent in form are also independent in substance (Gendron & Bedard, 2006; Cohen et al., 2009). These studies reveal that senior management has significant role in board and audit committee appointment, and it is possible that management appoints passive, compliant audit committee members who satisfy regulatory requirements but provide minimal oversight over management's actions. This suggests that at least some changes in governance may have been more form than substance. We continue with this line of investigation and examine whether firms imbued with the prime features needed by audit committee members are associated with reliable financial reporting in Malaysia.

Previous Malaysian studies provide mixed results on the desirability of the audit committee attributes, as proposed by the regulators. For example,

Bradbury, Mak, & Tan (2006) and Mohd-Saleh, Mohd-Iskandar, & Rahmat (2007) document that independent audit committee enhances financial reporting quality, whereas Abdullah & Mohd-Nasir (2004) and Abdul-Rahman & Mohamed-Ali (2006) show otherwise. Ismail, Mohd-Iskandar, & Rahmat (2008) and Abdul-Rahman & Mohamed-Ali (2006) do not find any evidence to indicate that audit committee activeness and financial literacy significantly impact financial reporting quality. However, Ismail, Mohd-Iskandar, & Rahmat (2008) find that audit committee multiple directorship impacts corporate reporting quality.

Thus, to help inform policy makers on the efficacy of their regulatory reforms, this study investigates whether audit committee characteristics such as the size of audit committee, independence of audit committee, audit committee meeting frequency and attendance, financial literacy of audit committee and multiple directorships held by audit committee members in other public listed companies would affect the quality of financial reporting.

Malaysia provides another suitable setting to evaluate the efficacy of prescribing certain "best practices" for audit committee since all listed companies in Malaysia are required to include in their annual reports, a report on the profile, composition, frequency and attendance of meeting, terms of reference and summary of activities carried out by the audit committee and summary of internal audit activities. We indicate the quality of financial reporting as high when the company won the prestigious annual award given by the stock exchange, and low when the company was publicly reprimanded by the stock exchange for violating the Listing Requirements pertaining to mandatory corporate disclosures, or the company received disclaimer audit opinion because the auditors were

not able to ascertain the accuracy of the financial statements. In overseeing the financial reporting, the audit committee is responsible, among others, in assessing the appropriateness of management's selection of accounting policies and disclosures in compliance with approved accounting standards, ensuring timely submission of financial statements by management, reviewing significant or unusual transactions and accounting estimates and assessing whether the financial report presents a true and fair view of the company's financial position and performance and complies with regulatory requirements (Bursa Malaysia Corporate Governance Guide, 2009, para 2.2.2).

Thus, our study is one of the few studies that overcome the imprecision in using the earnings management models as a proxy of the financial reporting quality by using a more direct measure of financial reporting quality to provide further evidence on the effectiveness of audit committee. The main problem with the abnormal accrual models is the presence of measurement error in detecting whether earning management has or has not taken place (Dechow, Sloan, & Sweeney, 1995; Guay, Kothari, & Watts, 1996; McNicholls & Wilson, 1998; Dechow & Dichev, 2002).

In addition, following Rosner (2003) and Garcia-Lara, Garcia-Osma, & Neophytou (2009), we incorporate financial distress indicator in the financial reporting quality model. Most earnings management studies in the past may suffer from omitted variable bias by not including the distress variable. And given that the role of the audit committee chairperson is highlighted in the Malaysian Code on Corporate Governance (2007)[268], Bursa Malaysia Corporate Governance Guide (2009)[269] and the Malaysian

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[268] Under the Code, the best practices in corporate governance include:
The chairman of the audit committee should engage on a continuous basis with senior management, such as the chairman, the chief executive officer, the finance director, the head of

Corporate Governance Index 2009 endorsed by Minority Shareholder Watchdog Group, we also include the background of the audit committee chairperson in terms of degree of independence, accounting financial expertise and multiple directorships in the robustness tests. An empirical study by Engel et al. (2009) shows that the quality of audit committee, proxied by the accounting financial expertise of the chairperson, is positively related to the level of audit committee compensation.

The findings show that audit committee size and financial distress influence the quality of financial reporting. The other audit committee attributes such as independence, board seats in other companies, frequency of and level of attendance at audit committee meeting and financial literacy are not significantly related to the quality of financial reporting. There is also no association between financial reporting quality and the audit committee chairman independence, financial literacy and multiple directorships. All in all, the evidence suggests that the desirable characteristics which the policy makers believe would enhance the effectiveness of the audit committee in carrying out its financial oversight responsibilities do not seem to yield the intended consequence.

The rest of the paper is organized as follows. The next section reviews the relevant studies and presents the research hypotheses. Then we describe the research method and discuss the results. The concluding section is devoted to the implication of

internal audit and the external auditors in order to be kept informed of matter affecting the company. Through the engagements, relevant issues affecting the company can be brought to the attention of the audit committee in a timely manner.
[269] The Guide emphasizes that a key element for a successful audit committee is a strong chair demonstrating depth of skills and capabilities. The audit committee chairman should assume, among others, the following responsibilities: planning and conducting meetings, overseeing reporting to the board, encouraging open discussion during meetings and developing and maintaining an active ongoing dialogue with senior management and both the internal and external auditors. The chair is also accountable for the agenda of the audit committee meeting and should not delegate it to management.

our study for investors, regulators and academics who are examining the audit committee oversight process.

PRIOR STUDIES AND HYPOTHESIS DEVELOPMENT

Agency theory suggests that shareholders require protection because management (agents) may not always act in the interests of the absentee owners (principals) (Jensen & Meckling, 1976; Fama & Jensen, 1983). To deal with this agency problem, the board assumes an oversight role that typically involves monitoring the Chief Executive Officer (CEO) and other top executives, approving the company's strategy, and monitoring the internal control over financial reporting. Given board diverse responsibilities, the board of directors delegates some of its oversight to the audit committee and other committees of the board.

The issue of audit committee's effectiveness in monitoring the financial reporting process was examined by, among others, Klein (2002), Felo, Krishnamurthy, & Solieri (2003), Xie, Davidson, & DaDalt (2003), Abbott et al. (2004), Bédard, Chtourou, & Courteau (2004), Persons (2005), Lin, Li, & Yang (2006), Qin (2007) and Archambeault, DeZoort, & Hermanson (2008). They examine the association between audit committee characteristics and incidence of fraud or restatements or extent of earnings management or disclosure quality. We summarize below the arguments that link audit committee characteristics and financial reporting quality and provide the empirical evidence on the relationship. In addition, we also discuss the financial reporting behavior among financially distressed firms to illustrate the need to include distress variable in study on financial reporting quality.

Size of Audit Committee

As mentioned earlier, the Bursa Malaysia Listing Requirements require a listed company to appoint audit committee from amongst its directors which must be composed of not fewer than three members. A larger audit committee may make it more likely that potential problems in the financial reporting process will be uncovered and resolved. This could arise if a larger committee size increases the resources available to the audit committee and improves the quality of oversight. Felo et al. (2003) document a positive relationship between financial reporting quality and audit committee size in a univariate analysis but this relationship does not hold in the multivariate analysis. In Malaysia, Ahmad-Zaluki & Wan-Hussin (2009) provide evidence that audit committee size is positively associated with the quality of financial information disclosure, proxied by the accuracy of IPO management earnings forecast. Based on the above, the following hypothesis is proposed:

> H1:   Larger audit committee size is associated with higher quality of financial
>   reporting.

Independence of Audit Committee

The role of audit committee is to safeguard an organization by its authority to question top management regarding the way financial reporting responsibilities are handled, as well as to make sure that corrective actions are taken. In a famous speech by Arthur Levitt entitled "The Numbers Game", the former Chairman of the Securities and

Exchange Commission remarked that "qualified, committed, independent and tough minded audit committees represent the most reliable guardians of the public interest".

The Listing Requirements of Bursa Malaysia stipulates that all listed companies to have audit committees comprising three members whom a majority shall be independent. The term independent in the Malaysian context refers to two crucial aspects, independence from management and independence from significant shareholder. The Revised Malaysian Code on Corporate Governance 2007 reinforces the desirability of audit committee independence by excluding executive directors from membership. Meanwhile, SOX requires firms to have audit committees comprised solely of independent directors, i.e. those not an affiliate of the firm and not accepting any compensation from the firm other than directors' fees.

Many studies have uncovered empirical regularities that audit committee independence enhances the quality of financial reporting. Klein (2002), Abbott et al. (2004), Bédard et al. (2004), Persons (2005) and Archambeault et al. (2008) show that audit committee independence reduce earnings management, or the likelihood of financial reporting restatement and financial reporting fraud. Krishnan (2005) finds that independent audit committees are significantly less likely to be associated with the incidence of internal control problems over financial reporting. These studies support the view that independent audit committees contribute positively to the financial reporting process, which motivate the following hypothesis:

H2: Higher percentage of independent directors in audit committee is associated with higher quality of financial reporting.

Audit Committee Meeting Frequency and Attendance

The National Committee on Fraudulent Financial Reporting, also known as Treadway Commission (1987), states that an audit committee, which intends to play a major role in oversight, would need to maintain a high level of activity. The audit committee should meet regularly, with due notice of issues to be discussed and should record its conclusions in discharging its duties and responsibilities. In the same vein, The Malaysian Code on Corporate Governance (2001) posits that audit committee which does not meet or meets only once is unlikely to be an effective financial monitor. The Revised Code (2007) advocates an increase in the frequency of meetings between the audit committee and the external auditor without the executive board members present to at least twice a year. This encourages a greater exchange of free and honest views and opinions between both parties.

The Guidelines for Audit Committees in the UK are particularly useful on the issue of timing of audit committee meetings. The number of meetings required in a year depends on the company's terms of reference and the extent of the complexity of the company's financial operations. The Guidelines state that the main meetings are often planned between the end of one year's audit and the

beginning of the next, before the issue of the **Interim Statements, after the** Interim Results and after the year end, but before the accounts are finalized.

Menon & Williams (1994) contend that the more often an audit committee meets, the more active it is being perceived, which leads to fewer financial reporting problems. Xie et al. (2003) and Vafeas (2005) document that when audit committee meets more frequently, discretionary accruals are lower and there is lower likelihood of firm reporting a small earnings increase, which indicates better financial reporting quality. Abbott et al. (2004) document that higher levels of committee activity (measured by holding a minimum of four meetings) are significantly related to a lower incidence of financial restatement. These studies provide evidence in support of the view that audit committees which meet more often are more effective in monitoring management and can potentially enhance the quality of financial reporting.

There are several dimensions that can be used to indicate audit committee activity such as meeting frequency, meeting duration and time allocation among different functions, meeting regularity, information exchange at the meetings, and whether executive directors are present at meetings and level of attendance of audit committee members. Due to archival data constraint, the two dimensions of activity that are examined in this study are frequency of audit committee meeting and the level of attendance of audit committee members. Based on the above discussion, two sub-hypotheses are formulated:

H3a: Higher frequency of audit committee meeting is associated with higher quality of financial reporting.

Besides regular meetings, the level of attendance of audit committee members can also be used to measure the activeness of audit committee members. Even though the frequency of meeting is high but if the attendance levels are poor this may impair the effectiveness of audit committee. It is posited that the higher the level of attendance of audit committee members, the more active and participative the audit committee is, therefore the better is the quality of financial reporting.

> *H3b: Higher level of attendance of audit committee members is associated with higher quality of financial reporting.*

Financial Expertise of Audit Committee

Audit committees are responsible for numerous duties that require a high degree of accounting sophistication such as understanding auditing issues and risks as well as the audit procedures proposed to address them, comprehending audit judgments and understand the substance of disagreement between management and external auditor, and evaluate judgmental accounting areas. DeZoort & Salterio (2001) show that audit committee members with previous experience and knowledge in financial reporting and audit are more likely to make expert judgments than those without. Xie et al. (2003), Abbott et al. (2004) and Bédard et al. (2004) document that audit committee financial expertise reduces financial restatements or constrain the propensity of managers to engage in **earnings management. DeFond, Hann, & Hu (2005) document that appointment of**

accounting financial experts generates positive stock market reaction, in line with market expectation that the audit committee members' financial sophistication are useful in executing their role as financial monitors. Krishnan (2005) and Zhang, Zhou, & Zhou (2007) find that firms are more likely to be identified with deficiencies in internal control over financial reporting, if their audit committees have less financial expertise. All in all, these studies suggest that financially knowledgeable audit committee members that possess accounting qualifications are more likely to prevent and detect material misstatements. Thus, the following hypothesis is proffered:

H4:   Higher percentage of audit committee members who are financial experts is associated with higher quality of financial reporting.

Audit Committee Members with Board Seats in Other Companies

Morck, Shleifer, & Vishny (1988) state that monitoring of top officers requires time and effort. As the additional directorships on other firms' board increase, demands on the individual board member's time decrease the amount available for the director to effectively fulfill monitoring responsibilities at a single firm. Shivdasani (1993) contends that multiple directorships hold by board members is a double edged sword. On one hand, it is important in terms of adding to the experience, but on the other hand, it can cause limitation of time and

commitment for board members to perform effectively. Persons (2005) finds that the likelihood of financial statements fraud is lower when audit committee members hold fewer directorships with other firms. Meanwhile, Song & Windram (2004) and Vafeas (2005) find that multiple outside directorships may not undermine audit committee effectiveness. One possible interpretation of this result is that under a certain limit, outside directorships enable directors to acquire specific experience from other companies. Given the inconclusive finding, the following hypothesis (non-directional) is proposed:

H5: The number of outside directorships per audit committee member affects the quality of financial reporting.

Financial Distress

For an entity experiencing financial distress, the quality of financial reporting is often proxied by the tenor of the relevant financial statement notes and of the liquidity section of the Management Discussions & Analysis (MD&A). Carcelo and Neal (2003) find that there is a significant positive relation between the percentage of affiliated directors on the audit committee and the optimism of both the financial statements notes and MD&A discussions for financially distressed entities. This evidence corroborates the finding by Jones (1996) that managers in financially distressed firms would prefer no disclosure or optimistic disclosure because they believed that disclosure of the going concern problems may adversely affect the entity's stock price. Similarly, Koch (2002) contends that management earnings forecast issued by distressed firms exhibit greater upward bias and

are viewed as less credible than similar forecasts made by non-distressed firms. Meanwhile, Holder-Webb & Cohen (2007) in their study of firms entering financial distress, find that the firms increase the disclosure quality of MD&A in the year of initial distress. However, sustained increases in the disclosure quality are limited to firms that subsequently recover from distress.

Apart from examining the MD&A, very limited studies have compared the accruals quality between financially distressed firms and non-distressed firms. Rosner (2003) shows that financially distressed firms are more likely to exhibit signs of material income increasing earnings manipulation than those of non-distressed firms. Likewise, Garcia-Lara et al. (2009) show that managers resort to both accrual manipulation and real activity manipulation in the years leading up to bankruptcy. Based on the above discussion that points to the low reliability of financial report emanates from financially distressed firm with propensity to camouflage its real performance, the following hypothesis is derived:

H6: Firm experiencing financial distress is associated with low financial reporting quality.

METHODOLOGY

According to Cohen, Krishnamoorthy, & Wright (2004) and Pomeroy & Thornton (2008), there is a lack of consensus on how to operationalize financial reporting quality. Dimensions of financial reporting quality that have been used by previous researchers include incidence of financial restatements and fraudulent financial reporting, weaknesses

in internal controls, and earnings quality using constructs such as earnings response coefficient and discretionary or abnormal accruals. Given that the public disclosure of financial restatements due to misrepresentation, fraudulent financial reporting and weaknesses in internal controls are rare in Malaysia, this study proxies the quality of financial reporting according to whether the company is a winner of the Stock Exchange Corporate Award (KLSE Award) or is meted disciplinary action by the KLSE for deficient corporate reporting, or is a recipient of disclaimer audit opinion.[270]

The KLSE Corporate Awards recognize listed companies which have shown exemplary corporate conduct in complying with the Listing Requirements. In addition, the Award recognizes public listed companies which have demonstrated high standards of corporate governance, disclosure and transparency coupled with proactive investor relations efforts. Importantly, these Awards also seek to promote international best practices by public listed companies. In February 2004 it was announced that 40 companies won the 2003 KLSE Corporate Awards, the last year the Awards were given since they were started in 1999, including four financial institutions. In this study, the winners of KLSE Awards, excluding financial institutions, are deemed to have good quality financial reporting (see Appendix 1).

On the other hand, companies which were fined and/or publicly reprimanded by the Stock Exchange for failure to comply with certain provisions in the Listing Requirements are considered to have poor financial reporting quality. In 2003, disciplinary actions were taken against 21 companies, and the natures of the offences of

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[270] KLSE is the abbreviation for Kuala Lumpur Stock Exchange, which is now known as Bursa Malaysia.

each company are described in Appendix 2. These companies are considered to have low quality of financial reporting because they failed to comply with some of the qualitative characteristics of financial information such as timeliness and relevance. Another dimension of poor financial reporting quality used in this study is when the auditors are not able to express an opinion on whether the financial statements give a true and fair view. For financial year ended 2003, we identify 11 such companies (see Appendix 3). Thus, unlike previous studies, our research design which focuses on companies with extremely high and low financial reporting quality provides us with a more competent and powerful test to identify characteristics of audit committee that matters in enhancing financial reporting quality.

The study uses logistic regression analysis to test the hypotheses. Maddala (1991) states that logistic regression is appropriate where disproportionate sampling from two populations occurs. Studies on the effectiveness of audit committee that have used logistic regression include and Felo et al. (2003), Abbott et al. (2004), Song & Windram (2004), Lin et al. (2006), Pucheta-Martinez & De Fuentez (2007) and Archambeault et al. (2008). The regression is specified as follows:

$$\textit{Dependent Variable} = \alpha + \textstyle\sum\beta\,\textit{Audit Committee Attributes} + \pi\,\textit{Distress}$$

$$+ \textstyle\sum\mu\,\textit{Controls} + \varepsilon \tag{1}$$

If a non-finance company has been awarded the KLSE Awards, the dependent variable = 1. If a company has received a public reprimand (with

or without fines imposed) by the Stock Exchange or disclaimer audit opinion, the dependent variable = 0. The variables associated with audit committee attributes are defined as follows: *ACSIZE* denotes audit committee size, *ACIND* denotes the proportion of audit committee members who are independent directors, *ACLIT* denotes the proportion of audit committee members who are financial experts i.e. members of professional accounting bodies, *ACFREQ* denotes the number of audit committee meetings held during the year, *ACATT* denotes the percentage of members who attended the audit committee meetings during the year, *ACMULT* denotes the percentage of audit committee members with board seats in other listed companies, *ACCHINDLIT* is a dummy variable which takes the value of 1 if audit committee chairperson is both independent and a financial expert and 0 otherwise, *ACCHMULT* is a dummy variable which takes the value of 1 if audit committee chairperson has directorship in other listed companies and 0 otherwise, and *DISTRESS* is a dummy variable which takes the value of 1 if the Z-score is below 2.07 based on the widely used Altman (1993) distress model[271] and 0 otherwise. The control variables are BIG-3, which takes a value of 1 if the company is audited by Ernst and Young, KPMG or PricewaterhouseCoopers and 0 otherwise, ROA

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[271] The Altman distress model is computed as follows:

$Z = 1.2*$(working capital/total assets)$ + 1.4*$(retained earnings/total assets)$ + 3.3*$(EBIT/total assets)$ + 0.6*$(market value of equity/total liabilities)$ + 1.0*$(net sales/total assets).

It is used in Malaysian studies by Nor and Chin (2002), Gul (2006) and Hasnan et al. (2009).

which is net income divided by total assets, and *FIRMSIZE* which is the natural log of total assets.

Our data sources are Bursa Malaysia website, and the annual reports of the respective companies for financial years ended 2002 and 2003. We used the annual reports ended 2002 for companies that won the 2003 KLSE Corporate Excellence Awards having financial year ending in October, November and December. We used the annual reports ended 2003 for all the remaining companies.

FINDINGS

Table 1 shows the sample partitioned by quality of financial reporting, type of auditor, distress indicator and the background of the audit committee chairperson. Out of 36 non-financial firms that won the KLSE Awards, 26 (or 73 percent) were audited by the Big-3 firms of Ernst and Young, KPMG or PricewaterhouseCoopers. On the other hand, out of the 32 firms that were reprimanded for violating the Listing Requirements or issued disclaimer audit opinion, 17 (or 53 percent) were audited by non Big-3. Almost two third of companies with good financial reporting quality do not have distress indicator, whereas 88 percent of companies with poor financial reporting quality have distress indicator.

About two-thirds of the sample firms have audit committee chairperson who is also directors in other listed companies. The instances of audit committee chairperson who is both independent and a financial expert are lower among the high quality financial reporting firms than the low financial reporting firms (22 percent vs. 34 percent). The

chi-square tests (not shown in Table 1) indicate there are associations between the quality of financial reporting and type of auditor and between the quality of financial reporting and distress indicator.

(Insert Table 1 here)

Table 2 shows the descriptive statistics of the sample partitioned by quality of financial reporting, either good or poor. Univariate analyses (*t-test*) showing comparison between poor financial reporting companies and good financial reporting companies are also shown for each of the variables of interest, and control variables. The average audit committee size for the full sample is 3.8. The average audit committee size for the good quality companies is slightly higher than the poor quality companies (4.1 vs. 3.5). All the companies in the sample have an audit committee with at least 3 members, which is in accordance with the Listing Requirements. On average, 73 percent of audit committee members are independent. All companies in the sample have audit committee where the majority is independent directors. The difference in means on audit committee independence between poor and good quality companies (0.69 vs. 0.76) is statistically significant. With regards to financial expertise of audit committee members, on average, one third of audit committee members is considered expert.

The average audit committee meeting frequency is the same for good and poor financial reporting companies at 4.75 times. Another way to measure the activeness of audit committee is to look at the audit committee meeting attendance. The level of

attendance is higher (although insignificant) for good quality companies than poor quality companies whereby on average 94 percent of members attended the audit committee meetings of high financial reporting quality companies, as compared to 91 percent for poor financial reporting quality companies.

On average, nearly 60 percent of audit committee members are also directors in other listed companies, with good financial reporting quality companies have higher multiple directorships among its audit committee members than their counterparts (64 percent vs. 56 percent), although the difference is not significant. High financial reporting quality companies also have higher *Z-score*, albeit insignificant, than low financial reporting quality companies. In terms of firm's performance, high financial reporting firms perform significantly better than low financial reporting firms, with their average *ROAs* at 5.3 percent and -40 percent respectively.

To summarize, the evidence from Tables 1 and 2 shows that firstly, the incidence of engaging Big-3 audit firm is significantly higher for good financial reporting companies than poor financial reporting companies, and secondly the audit committee size and audit committee independence for good financial reporting companies are significantly higher than poor financial reporting companies. More companies in the poor financial reporting quality category have distress indicator than their counterparts in the good financial reporting quality category, although the difference in the *Z-score* means between the two categories is not statistically significant. Poor financial reporting firms are also smaller and have lower return on assets than their counterparts.

(Insert Table 2 here)

1531

Table 3 shows the correlation analysis among the independent and control variables. Based on the correlation matrix, the correlation coefficients among the variables are all less than 0.6 except for the Spearman correlation between *DISTRESS* and *ROA* which is -0.62, which indicates that multicollinearity problem is not a cause for concern. This is further supported by the variance inflation factors of less than 2, when ordinary least square regressions are run for all the various models

(Insert Table 3 here)

Table 4 presents the regression results. In all the models the common variables are audit committee size, financial distress and the control variables. In Model 1, the additional audit committee attributes tested are the degree of independence and accounting financial expertise of audit committee members, In Model 2, we include the diligence of audit committee in terms of frequency of meeting and level of attendance at meetings, alongside with audit committee member with multiple directorships. In Model 3, we focus on the background of the audit committee chairperson. Based on the results, none of the audit committee attributes influence the quality of financial reporting, except for audit committee size in Model 2. Good financial reporting companies are more likely to have larger audit committee size than poor financial reporting companies. This is consistent with the evidence by Lin et al. (2006) who

show that a larger audit committee provides more oversight over the financial reporting process and reduces the probability of restating financial statements after their original filings with the SEC, but contrasts with the evidence from Felo et al. (2003), Abbott et al. (2004) and Bédard et al. (2004).

Our finding that independent audit committee is not associated with the quality of financial reporting is in contrast with previous Malaysian studies such as Abdullah and Mohd-Nasir (2004) and Abdul-Rahman and Mohamed-Ali (2006) that uses abnormal accruals as proxy for financial reporting quality. However, it is in tandem with Bradbury, Mak, & Tan (2006) and Mohd-Saleh, Mohd-Iskandar, & Rahmat (2007). Similar to previous Malaysian studies such as Ismail, Mohd-Iskandar, & Rahmat (2008) and Abdul-Rahman and Mohamed-Ali (2006), we do not find any evidence to indicate that audit committee activeness and financial literacy significantly impact financial reporting quality. We also find no association between audit committee multiple directorship and corporate reporting quality, which challenges previous finding by Ismail, Mohd-Iskandar, & Rahmat (2008).

Poor financial reporting companies are also more likely to have distress indicator consistent with the univarite results presented in Table 1 earlier. Consistent with Table 2, the results in Table 4 also indicate that larger and better performing firms are more likely to exhibit higher financial

reporting quality. Overall, there is very little support for hypotheses 1 to 6. Although the variables associated with the hypotheses are not statistically significant, the signs of the coefficients are in the predicted directions.

The accuracy of the model indicates that the percentage of correct classification is very high at above 85 percent. The Nagelkerke R squared also indicates that about 75 percent of all variation in the quality of financial reporting is explained by the models. Although not tabulated in Table 4, when we include all the hypothesized variables and the control variables, the results are qualitatively similar. The significant variables are *DISTRESS*, *ROA* and *FIRMSIZE*, whilst all of the audit committee attributes are insignificant.

(Insert Table 4 here)

CONCLUSION

Audit committee effectiveness remains one of the significant themes in corporate governance debates (Gendron and Bédard, 2006). The main objective of the study is to examine the relationships between audit committee characteristics and the quality of financial reporting. The characteristics of audit committee that are examined are size, independence, literacy, multiple directorships, level of activities which is proxied by meeting frequency and attendance, and background of the audit committee chairperson.

The evidence that firms with more members in the audit committee are more likely to have good quality financial reporting is in contrast with the evidence from

previous studies such as Felo et al. (2003), Abbott et al. (2004) and Bédard et al. (2004), but consistent with Lin et al. (2006). This suggests that larger audit committee makes it more likely that it can devote adequate time and effort to ensure that the information disclosed in the financial statements is accurate and timely and hence increase the quality of financial reporting.

This study also documents that financial distress is associated with the quality of financial reporting. This implies that previous studies that exclude financial distress in the financial reporting quality model may be misspecified,

Overall the findings can provide guidance to users of accounting information such as investors and regulators. For users, our findings serve as a reminder that audit committees may appear to comply with regulatory requirements on independence, financial expertise and minimum number of meetings, yet in actuality they serve only a ritualistic role with no substantive monitoring in the financial reporting process, in tandem with institutional theory (Cohen, Krishnamoorthy, & Wright, 2008). To help users make an informed decision on the quality of audit committee and to facilitate a sound assessment of "independence in substance", more qualitative disclosure is required on the activities of audit committee. For the regulators, the efficacy of prescribing certain "best practices" for audit committee remains an open question.

It is also fruitful for future research to consider moderating factors that may blunt the ability of audit committee members in promoting corporate transparency. An independent audit committee member's lack of seniority on the board may adversely affect his/her ability to scrutinize top management and raise concern over questionable accounting practices. Audit committee member who is appointed by the incumbent CEO

may face obstacles in becoming an effective financial monitor. One of the limitations of this study is the possibility of error in the archival measure of audit committee diligence. Audit committee compensation may be a better proxy for diligence than number of meetings and level of attendance at such meetings. We also ignore non accounting financial expertise when measuring the level of audit committee financial literacy.

APPENDIX 1
The recipients of KLSE Corporate Awards 2003

NO.	COMPANY NAME - MAIN BOARD	AWARDS' CATEGORY	SECTOR
1.	AIC Corporation Berhad	KLSE Corporate Excellence Awards 2003	
2.	British American Tobacco (Malaysia) Berhad	KLSE Corporate Sectoral Awards 2003	Consumer Products
3.	Petronas Gas Berhad	KLSE Corporate Sectoral Awards 2003	Industrial Products
4.	Road Builder(M) Holdings Berhad	KLSE Corporate Sectoral Awards 2003	Construction
5.	Telekom Malaysia Berhad	KLSE Corporate Sectoral Awards 2003	Trading/Services
6.	Island & Peninsular Berhad	KLSE Corporate Sectoral Awards 2003	Property
7.	Golden Hope Plantations Berhad	KLSE Corporate Sectoral Awards 2003	Plantation
8.	Puncak Niaga Holdings Berhad	KLSE Corporate Sectoral Awards 2003	Infrastructure Project Companies
9.	Computer Systems Advisers (M) Berhad	KLSE Corporate Sectoral Awards 2003	Technology
10.	Shangri-La Hotels (Malaysia) Berhad	KLSE Corporate Sectoral Awards 2003	Hotels
11.	Malaysia Mining Corporation Berhad	KLSE Corporate Sectoral Awards 2003	Mining
12.	UMW Holdings Berhad	KLSE Merit Awards 2003	Consumer Products
13.	Carlsberg Brewery Malaysia Berhad	KLSE Merit Awards 2003	Consumer Products
14.	Top Glove Corporation Berhad	KLSE Merit Awards 2003	Industrial Products
15.	Tractors Malaysia Holdings Berhad	KLSE Merit Awards 2003	Industrial Products
16.	IJM Corporation Berhad	KLSE Merit Awards 2003	Construction
17.	Gamuda Berhad	KLSE Merit Awards 2003	Construction
18.	Genting Berhad	KLSE Merit Awards 2003	Trading/Services
19.	Malaysia International Shipping Corporation Berhad	KLSE Merit Awards 2003	Trading/Services
20.	Sunrise Berhad	KLSE Merit Awards 2003	Property
21.	S P Setia Berhad	KLSE Merit Awards 2003	Property
22.	Kumpulan Guthrie Berhad	KLSE Merit Awards 2003	Plantation
23.	Guthrie Ropel Berhad	KLSE Merit Awards 2003	Plantation
24.	Unisem (M) Berhad	KLSE Merit Awards 2003	Technology

NO.	COMPANY NAME - SECOND BOARD	AWARDS' CATEGORY	SECTOR
1.	Pharmaniaga Berhad	KLSE Corporate Excellence Awards 2003	
2.	SEG International Berhad	KLSE Corporate Excellence Awards 2003	
3.	Khind Holdings Berhad	KLSE Corporate Sectoral Awards 2003	Consumer Products
4.	Tien Wah Press Holdings Berhad	KLSE Corporate Sectoral Awards 2003	Industrial Products
5.	Kumpulan Jetson Berhad	KLSE Corporate Sectoral Awards 2003	Construction/ Property/Plantation
6.	PJI Holdings Berhad	KLSE Corporate Sectoral Awards 2003	Trading/Services
7.	Industronics Berhad	KLSE Corporate Sectoral Awards 2003	Technology
8.	Hunza Consolidation Berhad	KLSE Merit Awards 2003	Consumer Products
9.	Malaysian AE Models Holdings Berhad	KLSE Merit Awards 2003	Industrial Products
10.	Wong Engineering Corporation Berhad	KLSE Merit Awards 2003	Industrial Products
11.	Ahmad Zaki Resources Berhad	KLSE Merit Awards 2003	Construction/Property/ Plantation
12.	Nationwide Express Courier Services Berhad	KLSE Merit Awards 2003	Trading/Services

Companies that were reprimanded/fined by the KLSE

COMPANY'S NAME	DATE	NATURE	YEAR ENDED	AMT OF FINE
SINDORA	23-Aug-03	LS OF AAA	30 APRIL 2003	RM2,000
SELOGA	23-Oct-03	LS OF AAA	30 APRIL 2003	RM16,000
SOUTHERN PLASTIC	9-Jan-04	LS OF QR	31 MAY 2003	RM22,000
DATUK KERAMAT	9-Jul-04	LATE ANNOUNCEMENT OF WINDING UP		
AMTEK	7-May-04	FAIL TO ANNOUNCE TRANSACTION		
DISCCOMP	20-Aug-04	LATE ANNOUNCEMENT OF RELATED PARTY TRANSACTION		
PILECON	20-Feb-04	LATE ANNOUNCEMENT OF WINDING UP		
TANAH EMAS	19-Mar-04	OTHER		RM200,000
TIMBERWELL	5-Nov-04	LS OF AR	31 DEC 2003	RM72,000
TIMBERWELL	5-Nov-04	LS OF AAA	31 DEC 2003	RM126,000
CHUAN HUAT	26-Nov-04	INFORMATION NOT FACTUAL, CLEAR		RM50,000
SITT TATT	9-Jul-04	INFORMATION NOT FACTUAL, CLEAR		
KSU	25-Jun-04	LS OF AAA	31 JULY 2003	RM200,000
KSU	9-Jul-04	LS OF AR	31 MARCH 2003	RM200,000
KSU	20-Aug-04	LS OF QR	30 SEP 2003	RM200,000
KSU	20-Aug-04	LS OF QR	31 DEC 2003	RM200,000
ANTAH	2-Mar-04	LS OF AAA	30 JUNE 2003	RM14,000
JIN LIN WOOD	24-Sep-04	LS OF QR	30 SEP 2003	RM100,000
JIN LIN WOOD	24-Sep-04	LS OF QR	31 DEC 2003	RM47,500
JIN LIN WOOD	24-Sep-04	LS OF AAA	30 JUNE 2003	RM100,000
JIN LIN WOOD	24-Sep-04	LS OF AR	30 JUNE 2003	RM125,000
SETEGAP	17-Sep-04	LS OF AAA	31 DEC 2003	RM5,000
LIEN HOE CORP.	20-Aug-04	LS OF QR	31 DEC 2003	RM3,000
GLOBETRONICS	03-Oct-03	OTHER		
GENERAL SOIL	9-Feb-04	LATE ANNOUNMENT OF WINDING UP		
CONSOL. FARM	5-Nov-04	OTHER		
AVANGARDE	3-Jan-05	LS OF AR	31 DEC 2003 & 2002	RM165,000
AVANGARDE	3-Jan-05	LS OF AAA	31 DEC 2003 & 2002	RM160,000
BUKIT KATIL	11-Mar-05	LS OF AR	AR 30 JUNE 2003	RM200,000
BUKIT KATIL	11-Mar-05	LS OF AAA	AAA 30 JUNE 2003	RM200,000

INDICATOR
LS OF QR = LATE SUBMISSION OF QUARTERLY REPORT
LS OF AAA = LATE SUBMISSION OF ANNUAL AUDITED ACCOUNT
LS OF AR = LATE SUBMISSION OF ANNUAL REPORT

The recipients of Qualified Audit Report for the year 2003

NO.	COMPANY'S NAME	AUDITORS	AUDIT OPINION
1.	Anson Perdana Berhad	HLB I. M. Chieng & Co	Unable to form an opinion/Disclaimer
2.	Aokam Perdana Berhad	KPMG	Unable to form an opinion/Disclaimer
3.	Ekran Berhad	Ernst & Young	Unable to form an opinion/Disclaimer
4.	Geahin Engineering Berhad	Ernst & Young	Unable to form an opinion/Disclaimer
5.	Hotline Furniture Berhad	Horwath Mok & Poon	Unable to form an opinion/Disclaimer
6.	Innovest Berhad	BDO Binder	Unable to form an opinion/Disclaimer
7.	Kemayan Corporation Berhad	PricewaterhouseCoopers	Unable to form an opinion/Disclaimer
8.	Metroplex Berhad	P.C. Chan & Partners	Unable to form an opinion/Disclaimer
9.	Omega Holdings Berhad	Ernst & Young	Unable to form an opinion/Disclaimer
10.	Pica (M) Corporation Berhad	KPMG	Unable to form an opinion/Disclaimer
11.	Tru-Tech Holdings Berhad	PricewaterhouseCoopers	Unable to form an opinion/Disclaimer

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Table 1- Sample Characteristics

		Type of auditor**		Distress indicator***		AC chairperson is director(s) in other listed companies		AC chairperson is both independent and financial expert	
		Non-Big-3	*Big-3*	*No*	*Yes*	*No*	*Yes*	*No*	*Yes*
Good quality financial reporting*	*n*	10	26	24	12	10	26	28	8
	percent	27	73	67	33	28	72	78	22
Poor quality financial reporting	*n*	17	15	4	28	11	21	21	11
	percent	53	47	12	88	36	66	66	34
Total	*n*	27	41	28	40	21	47	49	19
	percent	40	60	41	59	31	69	72	28

* Companies with good quality financial reporting are winners of 2003 KLSE Awards, whilst companies with poor quality financial reporting are violators of the Stock Exchange Listing Requirements or recipients of disclaimer audit opinion,

**Big-3 consists of Ernst and Young, KPMG or PricewaterhouseCoopers.

***Distress companies have Altman Z-score below 2.07 (see footnote 6).

Table 2 - Descriptive Statistics

		ACSIZE	ACIND	ACLIT	ACFREQ	ACATT	ACMULT	Z-SCORE	ROA	FIRMSIZE
Good	Mean	4.08	0.76	0.31	4.75	0.94	0.63	3.86	0.053	13.74
N =										
36	Minimum	3.00	0.50	0.17	4.00	0.80	0.00	0.67	-0.07	11.00
	Maximum	6.00	1.00	0.67	8.00	1.00	1.00	14.24	0.38	17.14
Poor	Mean	3.47	0.69	0.33	4.75	0.91	0.56	-13.11	-0.40	11.81
N =										
32	Minimum	3	0.5	0.00	2.00	0.40	0.00	-345.00	-4.15	7.22
	Maximum	5	1.0	0.67	11.00	1.00	1.00	9.69	1.05	14.47
Good	t-test #									
vs.	(difference	3.59*	2.49*	-0.70	0.00	1.43	0.90	1.67	2.94*	4.97*
Poor	in means)	3.64*	2.54*	-0.69	0.00	1.37	0.89	1.57	2.77*	4.99*
Total	Mean	3.79	0.73	0.32	4.75	0.93	0.60	-4.12	-0.16	12.83
N =	Minimum	3.00	0.50	0.00	2.00	0.40	0.00	-345	-4.15	7.22
68	Maximum	6.00	1.00	0.67	11.00	1.00	1.00	14.24	1.05	17.14

The top figure is for equal variances assumed and the bottom figure is for equal variances not assumed.

* p < .05 (2-tailed).

The independent variables are defined as follows: *ACSIZE* denotes audit committee size, *ACIND* denotes the proportion of audit committee members who are independent directors, *ACLIT* denotes the proportion of audit committee members who are financial experts i.e. members of professional accounting bodies, *ACFREQ* denotes the number of audit committee meetings held during the year, *ACATT* denotes the percentage of members who attended the audit committee meetings during the year, *ACMULT* denotes the percentage of audit committee members who are also directors in other listed companies, *Z-SCORE* is based on Altman model (see footnote 6), *ROA* is net income divided by total assets, and *FIRMSIZE* is the natural log of total assets.

Table 3 - Correlations

	1	2	3	4	5	6	7	8	9	10	11	12
1. ACSIZE		-0.04	-0.10	0.01	**-0.30**	0.20	-0.18	0.03	-0.15	0.22	0.19	**0.46**
2. ACIND	0.22		-0.18	0.05	0.05	**0.25**	-0.05	0.12	**-0.25**	0.11	0.20	0.19
3. ACLIT	**-0.32**	**-0.28**		0.10	0.09	-0.05	**0.25**	0.04	0.05	0.18	-0.12	-0.23
4. ACFREQ	0.00	0.08	0.07		0.05	-0.03	0.23	-0.01	0.05	-0.09	0.06	-0.02
5. ACATT	**-0.30**	-0.16	0.18	-0.14		-0.05	0.12	0.11	-0.15	-0.12	0.04	0.02
6. ACMULT	**0.24**	**0.28**	-0.13	0.02	-0.08		-0.04	**0.57**	-0.10	0.02	0.05	**0.28**
7. ACCHINDLIT	-0.16	-0.02	**0.27**	**0.30**	0.06	-0.05		0.13	0.12	-0.10	-0.12	-0.15
8. ACCHMULT	0.02	0.20	-0.02	0.06	0.00	**0.54**	0.13		-0.11	-0.02	-0.14	-0.01
9. DISTRESS	-0.14	**-0.24**	0.11	-0.08	-0.12	-0.09	0.12	-0.11		-0.13	**-0.26**	-0.20
10. BIG-3	**0.24**	0.13	0.07	-0.04	-0.06	0.03	-0.10	-0.02	-0.13		**0.29**	**0.28**
11. ROA	**0.29**	**0.27**	**-0.24**	-0.06	0.21	0.11	**-0.25**	0.04	**-0.62**	0.35		**0.31**
12. FIRMSIZE	**0.43**	0.22	**-0.37**	-0.02	-0.04	**0.26**	-0.15	-0.01	-0.20	**0.27**	**0.47**	

Pearson (diagonal up) and Spearman (diagonal down).

Correlation in boldfaced indicatessignificant at the 0.05 level (2-tailed).

The independent variables are defined as follows: *ACSIZE* denotes audit committee size, *ACIND* denotes the proportion of audit committee members who are independent directors, *ACLIT* denotes the proportion of audit committee members who are financial experts i.e. members of professional accounting bodies, *ACFREQ* denotes the number of audit committee meetings held during the year, *ACATT* denotes the percentage of members who attended the audit committee meetings during the year, *ACMULT* denotes the percentage of audit committee members who are also directors in other listed companies, *ACCHINDLIT* takes a value of 1 if audit committee chairman is both independent and a financial expert and 0 otherwise, *ACCHMULT* takes a value of 1 if audit committee chairman is also director(s) in other listed companies and 0 otherwise, *DISTRESS* takes the value of 1 if the Z-score is below 2.07 based on the widely used Altman (1993) distress model (see footnote 6), *BIG-3* takes a value of 1 if the company is audited by Ernst and Young, KPMG or PricewaterhouseCoopers and 0 otherwise, *ROA* is net income divided by total assets, and *FIRMSIZE* is the natural log of total assets.

Table 4 - Logistic Regression

Dependent Variable = α + ∑βAudit Committee Attributes + πDistress + ∑μControls + ε

		Model 1	Model 2	Model 3
	Hypotheses and Expected sign	Coefficient estimate	Coefficient estimate	Coefficient estimate
ACSIZE	H1 (+)	1.35	2.06*	1.25
ACIND	H2 (+)	6.80		
ACFREQ	H3a (+)		0.21	
ACATT	H3b (+)		10.44	
ACLIT	H4 (+)	3.81		
ACMULT	H5 (?)		-1.40	
DISTRESS	H6 (-)	-2.68*	-2.86*	-2.76*
ACCHINDLIT				0.44
ACCHMULT				-0.11
BIG-3		-0.07	-0.08	0.11
ROA		6.41*	6.10*	5.96*
FIRMSIZE		1.07*	1.14*	0.99*
Constant		-22.75*	-29.70*	-15.25*
Nagelkerke R squared		0.76	0.77	0.74
Hosmer-Lemeshow chi-square		9.35	7.95	2.74
Percentage correct		88.2	86.8	86.8

* $p < .05$.

The dependent variable = 1, if the company has been awarded the KLSE Awards, and 0 if the company has received a public reprimand (with or without fines imposed) by the Stock Exchange or disclaimer audit opinion. The independent variables are defined as follows: *ACSIZE* denotes audit committee size, *ACIND* denotes the proportion of audit committee members who are independent directors, *ACLIT* denotes the proportion of audit committee members who are financial experts i.e. members of professional accounting bodies, *ACFREQ* denotes the number of audit committee meetings held during the year, *ACATT* denotes the percentage of members who attended the audit committee meetings during the year, *ACMULT* denotes the percentage of audit committee members who are also directors in other listed companies, *ACCHINDLIT* takes a value of 1 if audit committee

1548

chairman is both independent and a financial expert and 0 otherwise, *ACCHMULT* takes a value of 1 if audit committee chairman is also director(s) in other listed companies and 0 otherwise, *DISTRESS* takes the value of 1 if the Z-score is below 2.07 based on the widely used Altman (1993) distress model (see footnote 6), *BIG-3* takes a value of 1 if the company is audited by Ernst and Young, KPMG or PricewaterhouseCoopers and 0 otherwise, *ROA* is net income divided by total assets, and *FIRMSIZE* is the natural log of total assets.

5.2 Islamic Accounting, Banking and Finance

THE IMPACT OF *RUHIYAH* ASPECTS ON
THE ASSESSMENT OF FINANCIAL PERFORMANCE HEALTH ON BMTS IN RESIDENCY OF BANYUMAS, CENTRAL JAVA, INDONESIA

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Abstract

The aim of the research is to analyze the impact of ruhiyah aspects on financial performance in the health assessment of Baitul Maal [wa at]Tamweels (BMT) – the shariah micro financing units – in Residency of Banyumas, Central Java, Indonesia. *Four* ruhiyah *aspects were examined in the study, which include: vision-mission, social sensibility, sense of belonging, and application of Shariah principles.*

All (43) BMTs in Residency of Banyumas were initially targeted as respondents. However, after applying some criteria set up, only 27 units of them were selected to be samples of research. The primary data were collected by distributing the questionnaires; the secondary data were based on their annual reports.

The study found that four above mentioned aspects have simultaneously significant impacts on the financial performance. Each variable has also been found to have a significant effect individually.

In spite of the results above, the other finding that needs to be emphasized here is that the Shariah principles are rarely applied by the management of the BMTs. Simplicity, easiness, and risk minimizing, are the reasons often held by the management. It is obvious that the main principles on which BMTs were initially based are ignored.

Keywords: *BMT, shariah micro financing unit, ruhiyah aspects, financial performance, health levels, Indonesia.*

BACKGROUNDS

The World Conference of Islamic Countries, 21-27 April 1969, had a positive impact in fostering Islamic banks in many countries. After establishment of Islamic Development Bank

in 1975, more than 200 Islamic financial institutions have also been established and recorded about fifteen years after. They are speared not only in the countries where Muslims constitute the majority, but also in some countries where Muslims are minority [Adnan, 1996; Muallim, 2007]

In Indonesia, on the initiatives of the *Majlis Ulama Indonesia* (MUI) and some Muslim entrepreneurs, the first Islamic bank, Bank Muamalat Indonesia, was founded with reference to the *Undang-undang RI No. 7 Tahun 1992* (Banking Act No.7, 1992). In 1998, a revision of the Act was passed to be *Undang-undang RI No. 10* (Banking Act No. 10 on Revision of Banking Act No. 7). On this basis, the Shariah banking has been admitted legally to be a sub-system of the national banking system.

According to Banking Act No. 10, 1998 the bank industry in Indonesia is classified into two types. One is a general bank, and the other is a rural bank (*Bank Perkreditan Rakyat*, abbreviated as BPR). The same classification is also applied for the Shariah bank industry, with additional *shariah* terms added to the name of bank, such as Bank Shariah Mandiri (BSM) established in Jakarta and has many branches located throughout many other cities in the country, and BPR Shariah Dana Hidayatullah in Yogyakarta.

Beyond above classification, the unique micro Islamic financial institutions also exist in the country. They are called as the *Baitul Maal [wa at] Tamwils* [commonly abbreviated as BMT). Legally, most of them apply the cooperative entity forms, but operationally, they look like more [Shariah] banks in general. Ideally, the BMTs were founded mainly to serve social and local interests who have no access to the formal banking industry, and not merely aimed at profit generating entities like many other micro financial institutions [See: Adnan, 2003]. The term "Baitul Mal" or "a pool of third party's funds" means a place for everyone who cares of social surroundings to save his or her money.

According to *Pusat Inkubasi Bisnis dan Usaha Kecil* (Center for Incubation of Small-business and Enterprises – abbreviated as PINBUK), although there are more than 3000 BMTs at the end of 2005, a far more higher number than that of 1997 (1501 BMTs), owned only below Rp. 1 trillion of assets [Pinbuk, undated]. The growth of BMTs is not always encouraging. Some of them were collapsed. The failure is caused by, first, unskilled management [Adnan, 2003] which could be indicated by the high non-performing loan. Second is poor management supervision, in particular the fund management supervision. The situation is worsened by the lack of management's sense of belonging. However, some exceptions also exist. For example is the *BMT Ben Taqwa* in Central Java. It has been growing remarkably and controlling the assets of around thirty trillions rupiahs (Agustianto, 2008).

In the middle of flourishing conventional institutions, the trust is a crucial issue directly connected to BMTs. Indonesian Minister of Cooperation and Small and Medium Enterprises, Surya Dharma Ali, urges that the performance of BMTs needs to be improved, especially in term of Shariah concept application. Collateral should not be an absolute requirement in credit or financing proposal, but in reality, it is strictly required.

PINBUK defines that the health level of BMT is its performance and quality which are seen from important factors that directly impact on the development of BMT, both in a short term and long term. There are two main aspects of the level, *jasadiyah* (physical) and *ruhiyah* (spiritual) (PINBUK, undated).

The *Jasadiyah* aspects include the financial performance, institutional structure and management. The *Ruhiyah* aspects include the vision-mission, social sensibility, sense of belonging, and application of Shariah principles which must be complying with the *shar'iah* rules, based on the Holy Quran and Tradition or *ahadith*. Some studies might have been focused to the *jasadiyah* issues. However, very little studies (if any) have been conducted to look at the *ruhiyah* issues, particularly in the case of the BMT, or micro Islamic financial institutions. This is among the reasons why this research was done.

Research Problems

Three important questions are set to study this issue. They are as follows: First, are the *ruhiyah* aspects affect simultaneously on the BMTs financial performance (the *jasadiyah* aspect)? Second: are the *ruhiyah* aspects impacts partially the financial performance? And finally: Which is *ruhiyah* aspect (among the four that we have identified) that has the most significant impact on the financial performance?

Objectives

The objectives of this study are:

1. To know how significant the *ruhiyah* aspects impact simultaneously on the *jasadiyah* aspect (financial performance).
2. To know how significant the *ruhiyah* aspects impact partially on the *jasadiyah* aspect (financial performance).
3. To know which ruhiyah variable that has the most significant impact on the *jasadiyah* aspect (financial performance).

Contribution of the Research

Upon the completion of the research, it is expected that it would be contributing the following:

1. To provide the BMT's management a general overview of factors influencing the financial performance. The research findings can be expected as a supporting consideration in the effort of sustaining or even improving the BMT's performance.

2. To provide the management of BMTs the reliable information of variables in the research those are closely related to the financial performance.

3. To provide the management of BMT an alternative resource to which the management might refer in determining the most important variable influencing the performance.

Theoretical Framework and Hypothesis

Shariah banking is a banking system that promotes morality and ethics. Values adopted in its operation are based on the basic characteristic of Prophet Muhammad (pbuh), which includes the *siddiq (honesty), istiqomah (consistent), fathonah (smartness), amanah (trustworthiness),* and *tabligh (ability to deliver)* principles (See also: Adnan (2006) in Sulaiman, M. and Nik Nazli Nik Ahmad, 2008). In addition, the cooperation (*ta'awun*), profesionalism (*ri'ayah*), and responsibility (*mas'o-liyah*), are other values that must be observed, as also guided in both the Quran's verses and Ahadith.

There are five interconnected factors that should be concerned in building a healthy BMT; these include the owner and management, customers and local community, competitors, regulators and supervisions, and infrastructures (Sudarsono, 2007).

The roles of BMTs as supporting agents for small enterprises are influenced by their health levels. A healthy BMT is a trusted, safe, and beneficial one. A BMT with an *unhealthy* predicate indicates that there is something wrong, not only in term of management and institutionalism, but also in that of Shariah aspect.

A research conducted by team Kofesmeid (2000) discovers that financial performance of BMTs is strictly connected to human resources they employ. The human resource is the main crucial issue faced by most of BMTs researched. The same finding was resulted by the team BMT Center Dompet Dhuafa Republika's research. The later shows that bad financial condition is caused by poor management of BMTs.

There are two main aspects of health assessed, *jasadiyah* and *ruhiyah*. The first includes financial performance or the capability of BMTs in managing funds accurately and smartly to ensure sustaining operation and profit generating, both in a short term and long term. The second covers institutionalism, or, the readiness of BMTs to perform their operations from the perspective of the availability and quality of rules and mechanism in planning, implementation, advancement, supervision, human development, and so on, and management, or, the readiness of BMTs to perform day-to-day operations.

Ruhiyah value is everyone's awareness of his or her existence as a creation of Allah (*makhluq*), by which he or she must always be conscious of the presence of Allah in every breath by consistently obeying what He wants.

The *ruhiyah* aspects includes, *fisrt*: vision-mission; *second*: social sensibility; *third*: sense of belonging; *fourth*: application of Shariah principles.

Vision, according to David (2002), is a long term wish and desire, "*What do we want to become*". Vision-mission has important roles in achieving defined objectives. Mission is the objectives or reasons why an organization lives. It is statements on what and how to achieve the objectives (Hunger et al, 2002).

Social sensibility is how responsive founders, management, and all members of a BMT are in caring of the surroundings, especially, local Muslim community. It is a fundamental basis for sustaining growth of the BMT as it is directly related to reputation and trust (Pambudi, 2007).

Sense of belonging, according to Robbins (1988), is a condition where personnel take the side of his organization with all its objectives. In line with Robbins, Gibson and Ivancevich (1996) define the sense of belonging as one's commitment, partiality, and loyalty, to certain organizations.

The research analyzes financial performance of BMTs in Residency of Banyumas from the point of view of the *ruhiyah* aspects. Two points are emphasized here, *first*, is to describe the measurement of the performance in the health assessment of BMTs used PINBUK standard that is slightly different from Bank Indonesia (Central Bank) standard. *Second*, is to scrutinize the relation between the ruhiyah aspects of management and the financial performance of BMTs in Residency of Banyumas that consists of four districts.

Hypotheses

Three hypotheses are developed to be examined in the study. They are:

1. The *ruhiyah* aspects have a simultaneous impact on the *jasadiyah* aspect (i.e. financial performance)

2. The ruhiyah aspects have a partial impacts on the *jasadiyah* aspect (i.e. financial performance)

3. The variable of Vision-Mission have the most significant impact on the *jasadiyah* aspect (i.e. financial performance)

RESEARCH METHOD

Population and Samples

The population of the research is all BMTs located in the Residency of Banyumas, Central Java, Indonesia. The samples were determined by non-probabilistic *purposive sampling* or *judgment sampling* with the criterion of minimum 3 years of operation. There are 27 of 43 MBTs in Residency of Banyumas that comply with the criterion.

Data Type

The primary data are obtained from questionnaires distributed to respondents, which include the founders, management, and local leaders of where the BMT is located. The questionnaires were designed using the Likert scale with 5 alternative answers. The secondary data are financial statements of 2005-2006 and other related information obtained from the BMT management.

Variables

The independent variables are:

1. The vision-mission of the BMT with the proxy questions on what opinion the founders, management, and all staff members who have the important positions and roles of BMTs.

2. The social sensibility which is measured by the proxy questions on percentage of funds allocated for *qard al-hasan* as compared to total financing provided, distribution of below-1-million financing to members, how active the management and members are in contributing to BMTs, and frequency of social-religious activities held by BMTs.

3. The sense of belonging which is measured by the proxy questions on the readiness of the founders and management to provide their additional contribution if the rush happens, degree of presence of the members in activities held, and how they pay obligatory contribution timely.

4. The application of shariah principles with the proxy questions on how BMTs collect and channel money from and to peoples, how to determine profit-sharing ratios, when revenue-sharing can be taking place, and who bears responsibility when loss happens in *mudarabah* agreement.

The independent variables measurement is conducted by providing five alternative answers for each proposed question, ranging from: *strongly agree* (score: 5), *somewhat agree* (score: 4), *neither agree nor disagree* (score: 3), *somewhat disagree* (score: 2), and *strongly*

*disagre*e (score:1). The scores are then multiplied by the weight of each question. The health level of BMTs is the results of the multiplication. See Table 1. Health Level of BMTs below:

Table 1: Health Level of BMTs

No.	Scores	Predicates
1	3.50-4.00	*healthy*
2	2.50-3.49	*moderately healthy*
3	1.50-2.49	*slightly unhealthy*
4	<1.5	*unhealthy*

Dependent Variables

Dependent variables are the BMTs' financial performances reflected in obtained scores for each component of capitalization, productive assets, liquidity, efficiency, and rentability. The scores are then multiplied by the weight of each score resulting in the health level as above. See table below for further details.

Table 2: The Assessment of *jasadiyah* Aspects

(Financial Performance) of BMTs

Components	Ratios	Scores	Weights
Capitalization			
$\dfrac{Total\ Capital}{Third\ Party's\ Saving}$	<5% 5% - 15.9% 16% - 25% >25%	1 2 3 4	20%
Productive Assets			
a. $\dfrac{Total\ Non\ Performing\ Financing}{Total\ Financing}$	>10% 6% - 10% 3% - 5.9% <3%	1 2 3 4	25%
b. $\dfrac{Reserved\ Written\ Off\ Financing}{Non\ Performing\ Financing}$	0% - 25% 26% - 50% 51% - 75% 76% - 100%	1 2 3 4	5%

1556

Liquidity			
$\dfrac{\textit{Total Financing}}{\textit{Total Third Party' s Fund}}$	<71% and >94.9% 71% - 74.9% and 91% - 94.9% 75% - 80.9% and 86% - 90.9% 81% 85.9%	1 2 3 4	20%
Efficiency			
a. $\dfrac{\textit{Operational Cost}}{\textit{Operational Revenue}}$	>90% 76% - 90% 60% - 75.9% <60%	1 2 3 4	5%
b. $\dfrac{\textit{Total Asset}}{\textit{Total Capital}}$	>50% 41% - 50% 31% - 40.9% <31%	1 2 3 4	5%
Rentability			
a. $\dfrac{\textit{Profit}}{\textit{Total Asset}}$	<1% 1% - 1.9% 2% - 3% >3%	1 2 3 4	13%
b. $\dfrac{\textit{Profit}}{\textit{Total Capital}}$	<5% 5% - 15.9% 16% - 25% >25%	1 2 3 4	7%

Analysis

Validity and Reliability Tests

An instrument is said to have a high validity level if its components do not deviate from the instrument function. In this research, the validity test is conducted with the *product moment* correlation method. According to Iqbal (2002), the minimum requirement for a component to be regarded as valid if r_{count} is grater than r_{table}.

The validity test of 19 statements used in the research shows the r_{count} of 0.679-0.91, is greater than r_{table} (0.367). The statements are, thus, regarded as valid. The reliability test (to measure the reliability of the questionnaires) is conducted with the *alpha cronbach* (*r-alpha*) correlation method. A statement is regarded reliable if the resulted *r-alpha* coefficient is greater than 0.5.

The reliability test of the 19 statements results in 0.742-0.93 of *r-alpha*, which is greater than 0.5. The statements are, thus, regarded reliable and can be used as measurement tools.

Hypothesis Test

In the research, the hypotheses are tested with *Path Analysis*. The analysis is used as there are both direct and indirect causal relation trends in the models.

The simultaneous impact of the *ruhiyah aspects* on the *jasadiyah* aspects (financial performance) is tested with F-test. The impact is regarded as significant if F_{count} is greater than F_{table}. The partial impact of the *ruhiyah* aspects on the *jasadiyah* aspects is tested with t-test. If a resulted t_{count} of an aspect is greater than the corresponding t_{table}, the impact is regarded to be partially significant. Further, which aspect of the *ruhiyah* aspects that has the most significant impact on the *jasadiyah* aspect is determined by observing the *Path Analysis* co-efficient. The aspect with the greatest coefficient has the greatest impact.

RESULTS

Descriptive Statistic

The number of respondents of each BMT is five people, these include one of founders, one of management staff members, one of local leaders, and two of customers. The totals of 135 respondents were successfully contacted. They are distributed as follows:

Table 3: Descriptive Statistic of Respondents

No.	Characteristic		Respondents			
			Founders	Manage-ment	Local Leaders	Members/Customers
1	Sex					
	a. Male		27	16	27	36
	b. Female		0	11	0	18
		Sum	27	27	27	54
2	Education					
	a. Senior High School					
	b. Under Graduate		3	10	6	34
	c. Graduate		12	9	10	9
			12	8	11	11
		Sum	27	27	27	54
3	Age					
	a. <25 years		10	6	0	20
	b. (25 -35) years		9	15	8	21
	c. (36 -50) years		6	5	12	5
	d. >50 years		2	1	7	8
		Sum	27	27	27	54
4	Salary					
	a. <Rp 1 million		n/a	24	n/a	n/a
	b. Rp (1 -3) million(s)		n/a	3	n/a	n/a
	c. >Rp 3 millions		n/a	0	n/a	n/a
		Sum		27		
5	Years of work in BMT					
	a. <1 year		n/a	2	n/a	n/a

			n/a	14	n/a	n/a
	b. (1 − 3) year(s)		n/a	14	n/a	n/a
	c. (3 − 5) years		n/a	4	n/a	n/a
	d. >5 years		n/a	7	n/a	n/a
		Sum		27		

Ruhiyah Aspects of BMTs

The health of BMTs in the Residency of Banyumas, viewed from the *ruhiyah* aspects, is presented in the table below.

Table 4: The Health Level of BMTs Viewed from *Ruhiyah* Aspects

No.	BMTs	*Ruhiyah* Aspects			
		Vision-Mission	Social Sensibility	Sense of Belonging	Application of Shariah Principles
1	A	3.540	3.307	3.747	3.480
2	B	3.568	3.216	3.104	3.248
3	C	3.640	3.590	3.460	3.320
4	D	3.840	3.520	3.700	3.800
5	E	3.920	3.600	3.920	3.800
6	F	3.888	3.992	3.648	3.376
7	G	3.847	3.953	3.747	3.587
8	H	2.937	2.990	3.493	2.789
9	I	3.710	3.670	3.240	3.500
10	J	3.690	3.393	2.880	3.333
11	K	3.644	3.512	3.488	3.424
12	L	3.393	3.447	3.347	3.240
13	M	3.566	3.806	3.726	3.371
14	N	3.660	3.330	3.240	3.500
15	O	3.150	2.540	2.600	3.200
16	P	3.880	3.247	3.427	3.293
17	Q	3.840	3.120	3.840	3.760
18	R	3.472	2.496	3.184	2.704
19	S	3.250	3.050	3.440	3.300
20	T	3.560	3.624	3.728	3.072
21	U	3.667	2.920	3.147	2.947
22	V	3.048	3.120	2.592	2.944
23	W	2.920	3.040	2.720	2.912
24	X	3.155	2.965	2.990	2.950
25	Y	3.263	3.223	3.246	3.154
26	Z	3.153	3.007	3.067	2.960
27	AA	3.116	3.129	2.933	3.129

Maximum	3.920	3.992	3.920	3.800
Minimum	2.920	2.496	2.592	2.704
Average	3.493	3.289	3.320	3.263

The table above shows that the health level of Vision-Mission aspect of BMTs in Residency of Banyumas on average is *moderately healthy* with the point of 3.493. There is no BMT with less than 2.49. Since the minimum point is 2.920, this means that none of BMTs in Banyumas can be classified as *slightly unhealthy* or *unhealthy*. The table also shows that seventeen of them have a *healthy* category.

The Social Sensibility variable shows the same results with the average point of 3.289 (*moderately healthy*). No BMT with the level of *slightly unhealthy* or *unhealthy* is found. The *healthy* category is achieved by nine BMTs with the points greater than 3.5.

In regards to the third variable, that is the sense of belonging, there is again none of BMT is found to be classified as *slightly unhealthy* or *unhealthy*. As indicated by the figures in the table, eight of them can be categorized as healthy.

The application of Shariah Principles is the most important aspect as it is the spirit of BMTs that makes them different from other small or micro sized financial institutions. How to determine profit sharing ratios, who bears responsibility when loss happens, and what rules to obey in running the operation, are all based on the said principles. The results show that there is no BMT in the Residency of Banyumas that does not respect the principles. In terms of the application, average point of 3.263 (*moderately healthy*) is achieved by the BMTs. It means that they have great concerns to apply the Shariah laws. Six of them have, in fact, respected the laws very much as indicated by the points recorded that are greater than 3.5 (*healthy*).

Jasadiyah Aspects (Financial Performance) of BMTs

Based on the method described in Table 5, the assessment of *jasadiyah* aspects (financial performance) of BMTs, the health levels of the BMTs' financial performances are presented in the following table. The levels are obtained by adding up all the components' health levels.

Table 5: The health levels of The BMTs's Financial Performances

No.	BMTs	Capitali-zation	Productive Assets	Liquidity	Efficiency	Renta-bility	Sum	Health Levels
1	A	0.80	0.85	0.60	0.20	0.80	3.25	MH
2	B	0.80	0.80	0.60	0.25	0.53	2.98	MH
3	C	0.80	0.90	0.20	0.25	0.20	2.35	SUH
4	D	0.80	0.30	0.80	0.20	0.73	2.83	MH
5	E	0.60	0.65	0.80	0.25	0.40	2.70	MH
6	F	0.40	0.55	0.20	0.10	0.20	1.45	UH
7	G	0.40	0.80	0.80	0.15	0.67	2.82	MH
8	H	0.40	0.70	0.20	0.25	0.80	2.35	SUH
9	I	0.20	0.60	0.20	0.10	0.41	1.51	SUH
10	J	0.60	0.55	0.80	0.25	0.80	3.00	MH
11	K	0.60	0.65	0.80	0.20	0.46	2.71	MH
12	L	0.40	0.55	0.60	0.15	0.20	1.90	SUH
13	M	0.40	0.55	0.80	0.20	0.47	2.42	SUH
14	N	0.40	0.60	0.40	0.25	0.27	1.92	SUH
15	O	0.60	0.45	0.80	0.30	0.20	2.35	SUH
16	P	0.40	0.55	0.80	0.25	0.47	2.47	SUH
17	Q	0.80	0.65	0.80	0.40	0.80	3.45	MH
18	R	0.40	0.85	0.60	0.25	0.67	2.77	MH
19	S	0.80	0.65	0.80	0.20	0.40	2.85	MH
20	T	0.40	0.80	0.60	0.15	0.80	2.75	MH
21	U	0.60	0.80	0.60	0.30	0.60	2.90	MH
22	V	0.60	0.95	0.60	0.40	0.27	2.82	MH
23	W	0.60	0.85	0.20	0.25	0.20	2.10	SUH
24	X	0.80	0.80	0.80	0.25	0.66	3.31	MH
25	Y	0.60	0.80	0.80	0.30	0.27	2.77	MH
26	Z	0.80	0.80	0.80	0.15	0.20	2.75	MH
27	AA	0.60	0.95	0.80	0.25	0.40	3.00	MH

Notes: H=Healthy; MH=Moderately Healthy; SUH=Slightly Unhealthy; UH=Unhealthy

The table above clearly indicates that, there are only 17 of BMTs in Residency of Banyumas achieving *moderately healthy* levels, and none of them is categorized as *healthy*.

Path Analysis

The aim of this analysis is to understand the impacts of the *ruhiyah* aspects's health levels on the *jasadiyah* aspect (financial performance)'s health levels. The variables to be analyzed are pictured in the table below.

Table 6: The Variables Used in *Path Analysis*

| No. | BMTs | Health levels of *ruhiyah* aspects | | | | Financial performance |
		Vision-Mission	Social Sensibility	Sense of Belonging	Application of Shariah Principles	
1	A	3.54	3.31	3.75	3.48	3.25
2	B	3.57	3.22	3.10	3.25	2.98
3	C	3.64	3.59	3.46	3.32	2.35
4	D	3.84	3.52	3.70	3.80	2.83
5	E	3.92	3.60	3.92	3.80	2.70
6	F	3.89	3.99	3.65	3.38	1.45
7	G	3.85	3.95	3.75	3.59	2.82
8	H	2.94	2.99	3.49	2.79	2.35
9	I	3.71	3.67	3.24	3.50	1.51
10	J	3.69	3.39	2.88	3.33	3.00
11	K	3.64	3.51	3.49	3.42	2.71
12	L	3.39	3.45	3.35	3.24	1.90
13	M	3.57	3.81	3.73	3.37	2.42
14	N	3.66	3.33	3.24	3.50	1.92
15	O	3.15	2.54	2.60	3.20	2.35
16	P	3.88	3.25	3.43	3.29	2.47
17	Q	3.84	3.12	3.84	3.76	3.45
18	R	3.47	2.50	3.18	2.70	2.77
19	S	3.25	3.05	3.44	3.30	2.85
20	T	3.56	3.62	3.73	3.07	2.75
21	U	3.67	2.92	3.15	2.95	2.90
22	V	3.05	3.12	2.59	2.94	2.82
23	W	2.92	3.04	2.72	2.91	2.10
24	X	3.16	2.97	2.99	2.95	3.31
25	Y	3.26	3.22	3.25	3.15	2.77
26	Z	3.15	3.01	3.07	2.96	2.75
27	AA	3.12	3.13	2.93	3.13	3.00

The social research has always a degree of aptness in explaining a relationship between variables. The relationship will not be able to be regarded as absolute causality due to unexplained variables and uncertainties. How apt the *ruhiyah* aspects influence on the *jasadiyah* aspect is determined by R^2. The greater R^2, the more correct the relations. The table below shows the degree of aptness of the *ruhiyah* aspects have an influence over the *jasadiyah* aspect.

Table 7: The Matrix of The X (*ruhiyah* aspects)'s Impacts on The Y (*jasadiyah* Aspect)

Impacts	Aspects			
	Vision - Mission	Social Sensibility	Sense of Belonging	Shariah Principles
Direct	95.08	47.75	4.28	8.11
Indirect				
Vision-Mission		-40.87	-8.80	-19.42
Social Sensibility	-40.87		8.02	10.22
Sense of Belonging	-8.80	8.02		2.58
Shariah Principles	-19.42	10.22	2.58	
Sum of Impacts	25.99	25.12	6.08	1.49

The total sum of X's impacts on Y is: (25.98+25.12+6.08+1.49) or 58.68 percent (R^2). As it has been explained before, this indicates that from all variables that impact Y, X represent 58.68% of them. The remaining other variables hold 41.36%. The remaining are unexplained variables and uncertainties.

Hypothesis Tests

Simultaneous impact of the *ruhiyah* aspects on the *jasadiyah* aspect (financial performance) is tested with F-test with significance of 95% ($\alpha = 0.05$). The result shows that F_{count} is 5.3183, greater than F_{table} (2.73). It means all the *ruhiyah* aspects do simultaneously have a significant impact on the *jasadiyah* aspect.

Partial test of each *ruhiyah* aspect is conducted by t-test with significance of 95% ($\alpha = 0.05$), resulting in the outcome below.

Table 8: The Result of Partial t-test on each The *ruhiyah* Aspect

Variables	pYX$_i$	t_{count}
Vision-Mission (X_1)	-0,9751	-6,6632
Social Sensibility (X_2)	0,6910	5,19495
Sense of Belonging (X_3)	0,2069	1,74743

Shariah Principles (X₄)	0.2848	2,06929

Based on the table above, Vision-Mission's t_{count} is less than t_{abel}. Each of the other three variables has t_{count} greater than t_{table}. It means all the four variables have significant impacts respectively on the financial performance. By comparing each path coefficient of the variables, it is obvious that $(pYX_2, pYX_3, pYX_4 < pYX_1)$, meaning that Vision-Mission is the variable with the most significant impact on the financial performance.

The table also shows that Application of Shariah Principles is the variable with the smallest coefficient. It is in line with the evident that some or many BMTs used to operate the entity closer to the conventional principles than complying with the Shariah rules purely. This include the treatment of money as a traded commodity, rather than means of payment, treating the *mudarabah* savings and deposits accounts with monthly fixed interests that are relatively equal to that of conventional banks, whether consumers agree or do not agree with. These have been regarded as the simplest and easiest way as the customers do not fully understand yet the Shariah techniques the BMTs try to apply.

In term of credit channeling, the BMTs often face a dilemma. In one hand customers needs the mudarabah and *musharakah* financing with an agreement of both profit and loss sharing as emphasized by the Shariah rules, on the other hand the management has to carefully place client's funds in safe instruments with zero losses. The management merely offers the profit sharing schemas, and avoids the loss sharing schemes. This is among the reasons why most BMTs tend not to offer the *mudarabah* and *musharakah* products.

As a result, they devote their efforts mainly to seek profit, and set aside social and religious missions at which their institutions are initially aimed. The reasons are:

a. The Shariah principles are still relatively difficult to be applied in the operations when, at the same time, consumers need easy, express, simple, and satisfying services.
b. Consumers have not yet fully understand the sharing systems, while the management reluctantly socializes the matter due to their limited knowledge.

CONCLUSIONS

Based on previous data analysis, the following findings are offered:

1. All the *ruhiyah* aspects have *moderately healthy* levels with the points of 3.493, 3.289, 3.320, and 3.263, for Vision-Mission, Social Sensibility, Sense of Belonging, and Application of Shariah principles indicators respectively.
2. In term of financial performance, from all the selected BMTs, 17 of them (63%) have moderately *healthy* predicates with the average point of 2.921, 33% bear *slightly unhealthy* with the point of 2.152, and 1 BMT (4%) is classified as *unhealthy*.

1564

3. All the *ruhiyah* aspects have a simultaneous impact on the financial performance with F_{count} of 5.3183 greater than F_{table} (2.73).
4. Each of the *ruhiyah* aspects has a significant impact on the financial performance. This is concluded from the resulted Vision-Mission's t_{count} (-6.6632) which is less than $-t_{table}$ (-1.7), and the other three's those are greater than t_{table} (1.7).
5. Vision-Mission is the *ruhiyah* aspect that has the most significant impact on the financial performance with its path coefficient (25.98) greater than the other three's coefficient (Social Sensibility: 25.12; Sense of Belonging: 6.07; Application of Shariah Principles: 1.48)

IMPLICATION

In our view, the above findings might have some implications. Among other is that the imperative of ruhiyah aspects to be well understood, planned and implemented by those BMTs' management and staffs. The research has proven convincingly the strong relationship between the j*asadiyah* and *ruhiyah* aspects. The reality in many cases had shown that little, if any, of *ruhiyah* aspects have been into account. A failure of taking care of these aspects, undoubtedly shall affect the life of entities.

As discussed previously, the implementation of shariah principles is having the lowest score. It indicates the likelihood of disregarding the shariah principles on the operation of BMTs. Regardless the reason(s) held by BMTs management, this practice can no longer be tolerated. Failure to implement the shariah principles properly might affect the fundamental well-being of the BMT. In the medium or long run, the existence of BMT can be fading. The BMTs would be seen as indifferent to any conventional (riba based) micro credit entities. The basic objectives of the establishment BMT will never be able to be reached.

LIMITATIONS AND FURTHER RESEARCH SUGGESTIONS

Although we believe that the findings are important, yet we have to recognize the inherent limitations of this study. These include, first: the study area coverage. The research was conducted in Residency of Banyumas that consists of four districts. As we have informed previously, we cover only 27 BMTs out of three more thousand BMTs scattered in the country. Different results might be possibly obtained if the observations are expanded to other or larger areas. The validity of the conclusions is, thus, restricted merely to Residency of Banyumas.

Second, the financial ratios used in the research to measure the health level of BMTs are based on the standards issued by PINBUK that are slightly different from that of Bank Indonesia (the latter is designed to measure the health level of conventional banks). Thus, there are possibly variables other than used in the research that impact, too, on the financial performance of the BMTs. These variables have not been regarded yet in the study. Moreover, the financial statements periods only cover two consecutive years (2005 – 2006).

Due to these constraints, we strongly suggest that more rigorous study can be conducted to overcome the above limitations of the current study.

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CONVERTING A CONVENTIONAL BROKERAGE HOUSE INTO AN ISLAMIC ONE
(AN APPLICATION TO THE TURKISH MARKET)

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Abstract

Islamic Finance is gaining momentum worldwide not only with the wealth accumulation in Islamic societies along with the higher oil prices but also with its asset backed structure casting out excessive uncertainty. Islamic Banking activities has been carried out by Participation Banks for the last 25 years in Turkey, however other Islamic Finance institutions like Islamic brokerage and Islamic Insurance (Takaful) are quite new to Turkish market with the former introduced in 2007 and the latter is yet to be launched. This paper lays out the ground for the conversion principles of a conventional brokerage house into an Islam compliant brokerage house by benefiting from the experience of Inter Invest, the first Islamic brokerage house in Turkey.

I. INTRODUCTION

Islamic Finance has been recently attracting interest from both the researchers and the practitioners. Many researchers analyse Islamic Finance whether its principles can be an alternative to crises worn global finance system. And as for the practitioners, Islamic Finance is a rapidly growing finance field with the oil driven

wealth accumulation and high population growth among Muslim communities. The

industry's assets have grown 28 percent globally in 2008 after observing an annual

growth rate of 20 to 30 percent over the last ten years. However the industry growth

is expected to slow down in 2009 due to severe global crises[272].

Basically, Islamic finance relies upon trade and bans interest. Any transaction should

be based on assets like real estate and commodities. Excessive uncertainty and

leverage is not allowed thus avoids speculation. Both the assets and the transaction

structure should comply with the Islamic principles. The financial structures and

operations should be approved by the Shariah board (religious board) which is

consisted of at least three Islamic scholars[273].

There are however shortcomings of Islamic finance like the lack of uniform

interpretation and application of the Islamic principles and the shortage of the Islamic

financial products. The industry is working on generally accepted Islamic principals

through associations. As for the shortage of the Islamic financial products, the

number of the Islamic finance institutions is growing along with the volume of the

financial products. Also the governments across the world are tapping the Islamic

finance market with asset based debt products.

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[272] Islamic Finance Industry Growth May Falter in 2009, Bloomberg May 7,2009

[273] The Economics of Islamic Finance and Securitization, Andreas A. Jobst, February 2007

Islamic Finance was first introduced in 1985 to Turkish finance market through Islamic banks (called as Participation Banks in Turkey)[274].Islamic banks has reached to 3.7% of the all banking assets, 4.7% of deposits[275], 4.9% of credits and 4.2% of capital within 24 years of operations[276].Participation banks channelled most of the collected deposits into credits more than the conventional banks due to the fact that there were no available asset based government debt complying the Islamic investment principles until 2009[277].

Islamic financial system is not only limited to banks, other conventional finance operations like brokerage, funds, insurance and the like can be carried out on Islamic principles. Yet these Islamic institutions are quite new but they have been growing with solid steps.

The following section of this paper explains the Islamic brokerage and the differing functions between the conventional and Islamic brokerage house both on the

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[274] Albaraka Turk was the first Islamic bank to operate in Turkey.Currently there are 4 participation banks active.

[275] Islamic Banking has serious disadvantage over the conventional banking on the deposit side.The earliest deposit maturity is one month due to the Islamic operating nature of the Participation banks, while the conventional banks accepts overnight deposits and repurchase agreement.

[276] May,2009 Bulletin, Banking Regulation and Supervision Agency (BRSA)

[277] Turkish Treasury launched new bonds linked to income of several state agencies in January and April 2009. The participation banks showed large demand for their proprietary portfolios as well as their clients.

operational and business lines. The paper also aims to lay out the equity selection and investments criteria for mutual funds to operate in line with the Islamic principles.

II. ISLAMIC BROKERAGE

Brokerage houses act as intermediaries between the investors and the capital markets. Islamic brokerage houses are means for Islamic investors to invest their wealth ethically into assets complying with Islamic principles avoiding interest, manipulation & speculation, excessive uncertainty, leverage and detriment to third parties.

Mostly an investor is not in a position to know whether an investment is Islam-compliant or not. Islamic brokerage house provides information on the Islam compliancy of the investment in addition to financial advising and intermediary services.

Brokerage houses are extensively regulated and scrutinized by state or vocational organizations[278].Islam applies additional responsibilities on the brokerage houses in order to ensure ethical financial system. These additional responsibilities are like freedom from interest, excessive uncertainty, gambling, unearned income, price

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[278] A Model of an Islamic Stockbrokerage Firm, Thomas D. Telner,
www.djindexes.com/mdsidx/downloads/tellner.pdf

control and manipulation, detriment to third parties and entitlement to transact at fair

prices and equal, adequate and accurate information.[279]

Islamic brokerage house carries out most of the functions of the conventional

brokerage houses. It provides investors advise on investments, brokerage on

securities and commodities, manages mutual funds, real estate funds, private equity

funds and discretionary portfolios. Additionally it provides corporate finance services

like IPO's and debt securitization. Islamic brokerage house differs from the

conventional brokerages in areas like margin trading, transaction of interest bearing

bonds, transaction of equities which are not fulfilling the Islamic investment criteria.

Islamic brokerage activities have gained momentum within the last ten years. Some

brokerage houses are solely offering Islamic brokerage while some of them offering

both conventional and Islamic brokerage services. The banking clients of the Islamic

banks constitute solid base for the Islamic brokerage houses to offer their services.

Potentially, the network among the Islamic brokerage houses around the world will

strengthen the growth of the industry to ensure the continuation of the success.

III. THE POTENTIAL OF ISLAMIC BROKERAGE IN TURKEY

A. Brokerage Business in Turkey

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[279] Islamic Financial Services, Mohammed Obaidullah, Islamic Economics Research Center, March 2005

The number of the active brokerage houses is 88 as of March 2009 down from 99 in 2007. In the last four years the sector has gone through consolidation. International banks and investment banks acquired local firms in order to take place in developing Turkish capital markets[280].

A typical brokerage house in Turkey provides brokerage in equity, fixed income, derivatives and foreign securities to earn commission income. Net commission revenues constituted 55% of the brokerage firms' revenue which was 561 million USD in 2008. 74% of the commission income is derived from equities, 23% from derivatives with the remaining derived from fixed income and foreign securities.

In addition to brokerage services, the firms also provide corporate finance, asset management and other services to constitute 28% of the revenue. The rest of the income comes from the proprietary trading and interest income received from the clients.[281](Exhibit 1)

Exhibit 1: Breakdown of brokerage firms' revenues (2008/12)

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[280] The Capital Market Board of Turkey has not been issuing new licenses such that the only entrance to Turkish brokerage industry is to acquire a brokerage firm.

[281] The Association of Capital Markets Intermediary Institutions of Turkey

When we evaluate the breakdown of the stock trading volumes (Exhibit 2) 28,4% of trading is realised by domestic sales department, 25,1% by international sales department, 14,9% by branches (total 185 branches), 13,1% by bank branches (5.664 bank branches), 9,3% through internet, 5,5% by proprietary trading and the remaining 3,6% by the other departments.

Exhibit 2: Breakdown of stock trading volumes by departments (2008/12)

Turkish brokerage industry is intensively dominated by the bank owned brokerage companies and the international investment banks.The former have the advantage of the broader distribution network through their branches, call center and internet banking and the latter have their own international network of investors and funds.However specialised islamic brokerage companies with islamic banking backing can built solid business in Turkey.

B. Islamic Banking in Turkey

Four Islamic banks (called as Participation Banks) are operative as of May 2009, constituting 3,7%[282] of the all banking assets. The annualised average growth of the sector has become 30,7% within the last seven years while it has been 19,3% for the

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[282] May,2009 Bulletin, Banking Regulation and Supervision Agency (BRSA)

whole banking industry. There are 682.000 deposit accounts (participation accounts), 176,000 credit accounts and 758.000 credit cards with the Islamic banks.[283] Islamic banks totally have 540 branches and 11.074 employees as of first quarter of 2009.[284]

Islamic banks are important pillars of the Turkish banking system with their non interest and profit / loss sharing structures.

Islamic banks have long ignored the other Islamic finance institutions like brokerage and insurance. Since these banks already have client base and solid reputation of ethical and Islamic operations, any attempt to get in to the brokerage and insurance business has a high chance welcome by the Islamic investors.

Islamic banks are warming up with the equity markets with Asya Bank and Albaraka Turk shares started trading at Istanbul Stock Exchange in recent years. Saying that there might be more interest in providing brokerage services to their clients in the near future through either their brokerage house or some other independent Islamic brokerage firm.

IV. CONVERSION OF A CONVENTIONAL BROKERAGE HOUSE INTO ISLAMIC ONE

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[283] Participation Banks within the Turkish Finance System, Osman Akyüz, 20 March 2009, The Participation Banks Association of Turkey

[284] The Participation Banks Association of Turkey

The Islamic board of the Unicorn Investment Bank (Bahrain based Islamic Investment Bank) requested the management of Inter Invest (Turkish Brokerage House) and its subsidiary Inter Asset Management in 2007 to convert the company activities to comply with the Islamic rules within a three year period, under the condition of substantial progress in each year.

Brokerage house functions can be divided as business units and operation units.

A. Conversion of Operation Units

Operation units of a typical brokerage company are order processing, cashiering, clearing, transfer, finance/accounting, administration, internal audit, compliance, risk management and IT.

As for the conversion of operation activities, two major areas were needed for change.

1. Proprietary Accounts: All proprietary accounts in bonds and money market instruments are liquidated and deposited into participation accounts held with Islamic Banks. Also the equities in the proprietary accounts are liquidated to invest into Islam compliant equities.

2. Collaterals Held with Istanbul Stock Exchange (ISE) Settlement and Custody Bank: The company had treasury bonds with Settlement and

Custody Bank as collateral. The bonds were replaced by letter of guaranty of Islamic banks.

B. Conversion of Business Units

Business units of a brokerage house are treasury (cash management and proprietary trading), sales /marketing (domestic and international), corporate finance, asset management and research.

I.   Treasury: Treasury department of a brokerage firm mainly functions in cash management of the firm, lend or borrow money in the money markets and trade treasury bonds on behalf of the firm. Therefore, treasury department is not allowed to lend or borrow money in the money markets and trade treasury bonds. Instead, the department uses deposit accounts held with Islamic banks and trade income indexed government bonds when it is possible.

II. Sales / Marketing: Margin trading accounts of clients were cancelled since it does not comply with Islamic principles. Derivatives and fixed income instruments trading of clients is also not permissible in a Islamic brokerage house.

The clients were able to trade in equities which fulfil the following Islamic principles[285].

Equity Selection Criteria-Business Lines

Companies dealing in alcohol, tobacco, pork-related products, conventional financial services, defence/weapons and entertainment businesses are excluded from the Islamicaly investable equity list.

Equity Selection Criteria-Financial Ratios

Companies whose;

-Total debt divided by trailing 12-month average market capitalization is 33% or more,

-Cash plus interest-bearing securities divide by trailing 12- month average market capitalization is 33% or more,

-accounts receivables divided by 12-month average market capitalization is 33% or more,

are also excluded from the investable equity list.

The list of Islam compliant stocks in Istanbul Stock Exchange (ISE) will be revised after each quarter financial results for amendments. Research

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[285] According to the Islamic Board of Unicorn Investment Bank.

department is responsible for the update of the stocks in line with the Islamic board.

There were 81 stocks approved by Islamic guidelines with total market capitalization at 32.5 billion USD which was 31% of the ISE total).The floating market capitalization of these stocks was at 9.7 billion USD as of November 2008.

III. Corporate Finance: Corporate finance activities should also align with the Islamic guidelines as outlined above for equities. Securitization should be based on asset and the total structure should be approved by the Islamic board.

IV. Mutual Funds: There are basically two ways of transition of the existing mutual funds into Islamic funds.

1-Amendment of the equity funds' bylaws to comply with Islamic guidelines and the closure of the money market funds and fixed income funds since they do not comply with the Islamic principles due to the lack of asset backed, revenue sharing or profit/loss sharing securities available in the Turkish market.[286]

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[286] Turkish Treasury recently launched new bonds indexed to income of several state agencies which

2- Merger of the existing funds to create an Islamic equity fund.

There are challenges to managing Islamic funds in Turkish capital markets. The fund should invest fully in equities all the time regardless of the market condition due to the lack of Islamic debt and money market products. Also the Turkish Capital Market Board Code (CMB) is restricting funds to deposit money into conventional or participation bank accounts. Investing fully in equities creates pressure on the fund returns thus limiting the success of the fund. Investing into commodities like gold also is not a solution to the problem due to commodity price fluctuations. Islamic funds in Turkey will be successful in Turkish market when there will be more of government and private sector Islamic debt available with liquidity in the secondary market.

V. CONCLUSION

In this paper, we tried to explain the application process of the first of a kind conversion of a conventional brokerage house into an Islamic brokerage house in Turkey. Islamic brokerage has not kept up pace along with the Islamic banking

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comply with the Islamic investment criteria however the secondary market of the issues is not liquid. Mutual funds can not invest into illiquid securities due to uncertain redemption dates.

up until recently however, today it is generally accepted as complementary to the Islamic banking business.

Brokerage business has been going through consolidation in Turkey. In order to be successful in these growing market institutions has been looking for ways of specialization. Islamic brokerage offers high potential in parallel with rapidly growing Islamic banking both in Turkey and worldwide. The introduction of the Islamic insurance (takaful) in the near future will boost the Islamic asset management business.

However, there are challenges ahead for the Islamic brokerage in Turkey. Firstly, the lack of Islamic debt is a major obstacle for the industry's growth. We believe there will be more Islamic debt issues coming to the market in the near future in order to attract more of Islamic capital in to Turkey. Secondly, an independent Islamic brokerage house would be highly dependent to the distribution network of the existing Islamic banks in Turkey. Such a company should target to be active in international sales and corporate finance in case it will have distribution problems for brokerage and fund management businesses. Lastly, Islamic brokerage is not well known to investors. The industry should accelerate its efforts to promote Islamic brokerage.

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WAQF ACCOUNTING AND THE CONSTRUCTION OF ACCOUNTABILITY

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Abstract

This paper aims to explore the major themes that constitute the basis of the discussion on accountability in *awqaf* institutions. In doing this, the theoretical underpinnings and the existing empirical investigations relating to *waqf* accounting and accountability are examined. Review on *waqf* studies indicates the common phenomenon i.e. the absence of accounting standards for *waqf.* Nevertheless, this phenomenon could be due to there is no clear consensus about accountability. Due to previous *waqf* studies did not capture the dynamic aspect of stakeholders, this study suggest Mitchell, Agle and Wood (MAW) model to explain the nature of *waqf* stakeholders. By combining MAW model with Hayes accountability, this paper comes up with the proposal regarding what kind information should be provided by *mutawalli* to various *waqf* stakeholders.

Keywords: *waqf* accounting, accountability, MAW model, Hayes accountability

1. Introduction

Perhaps, prior to the last decade there were not many academicians realized that *waqf* accounting deserved to be researched. *Waqf* (plural *awqaf*) subject was marginal and only attracted small number of students and researchers to investigate (Hoexter, 1998); hence it is not surprising why *waqf* literature, including *waqf* accounting was hardly found. The absent of *waqf* accounting might be due to some reasons, but among other things is probably because many academicians thought that there was nothing to do with accounting for *waqf*.

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The way of *waqf* is simple (Rashid, 2008) hence accounting for *waqf* is regarded very basic besides it is not as complicated as accounting for Islamic banking and other Islamic financial institutions (Muhammad 2008). Clearly, the development of *waqf* institutions in the last decade is not as rapid as the development of Islamic banking. While Islamic banking has attracted many researchers and scholars to investigate, *waqf* issue was left behind (Ihsan and Shahul, 2007, Adnan, Maliah and Putri Nor Suad, 2007).

It has been witnessed in the last few years that the revitalization of *waqf* institution has been on agenda of Muslim communities around the world. Plenty international *waqf* conferences[288] which were held by Islamic Development Bank (IDB) through its subsidiary organ the Islamic Research and Training Institute (IRTI) indicates a growing interest and awareness in *waqf* institutions as one of the tools for community development (Cajee, 2008). Along with the revival of this historic institution, the attention to the call for *waqf* accounting had been emerged. The new and modern *waqf* management has put greater emphasize on the principles of accountability and transparency (Cajee, 2008). Thus, as part of good governance and best practices of *awqaf* institutions, accounting is believed can improve the accountability and transparency of the *mutawalli*[289] (Adnan et al., 2007). Besides, accounting

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[288] Recently, there were a number of waqf conferences held by IRTI i.e. in Singapore (2007), Bangladesh (2007), South Africa (2007), Dubai (2008), Iran (2008) and some other countries.

[289] *Mutawalli* is *waqf* manager, sometimes also called *nazeer*

is a tool for *mutawalli* to discharge his accountability to many parties such as wāqif[290], *waqf*

board, government and community in large (Ihsan and Shahul, 2007).

Studies on accounting practices in *waqf* institutions indicate there is diversity with

regard to accounting and reporting of *waqf* (see Abdul Rahim et al., 1999; Siti Rokyah, 2005;

Hisham, 2006 and Ihsan, 2007). Ihsan (2007) believes that the phenomenon of dissimilarity

of accounting practices among *awqaf* institutions is due to the absence of accounting

standards for *waqf*. In addition, Ihsan found that the perception of *mutawalli* regarding

responsibility and accountability influence the way of *awqaf* institutions produce and

disseminate accounting information. This is an interesting finding when Cordery and Morley

(2005) also assert that the uncertainty over accounting practices in charitable sectors and

other not-for profit organizations is not only due to the absence of accounting standards but

also because the failure to establish a widely agreed definition of accountability for that

sector.

In the *awqaf* context, although Hisham (2006) and Ihsan (2007) agree that Shahul's

proposal of dual accountability is more appropriate for *waqf*, it requires further explanation as

to whether it can be implemented and measured. Indeed, defining accountability is essential

as it is deemed critical to regulatory functioning (Cordery and Morley, 2005). While Cutt and

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[290] *Wāqif* is *waqf* founder

Murray (2000) state that accountability is a foundation of performance measurement, evaluation and reporting. Further, Lewis (2006) believes that accountability is a central theme in Islam since the accountability to Allāh and the community is paramount to a Muslim's faith. As asserted by Askary and Clarke (1997), the word hisab which is interrelated with account and accountable is repeated more then eight times in different verses in the Qur'an.

Therefore this paper aims to explore the major themes that constitute the basis of the discussion on accountability in *awqaf* institutions. In doing this, the theoretical underpinnings and the existing empirical investigations relating to *waqf* accounting and accountability are examined. To begin the discussion, the development of *waqf* studies in general will be highlighted. It will be followed by the review of studies on *waqf* accounting in the recent years. The discourse about accountability construction in *awqaf* is presented before the conclusion.

2. *Waqf* studies as the key driver towards *awqaf* revitalization

In Islam, *waqf* is one of the principle means to alleviate the poverty problem in the society besides *zakat* (compulsory charity) and *sadaqah* (optional charity). Kahf (2003) defines *waqf* as "…holding certain property and preserving it for the confined benefit of philanthropy and prohibiting any use or disposition of it outside its specific objective". *Waqf* can be an effective system for poverty alleviation by improving non-income aspect such as health,

education etc as well as increasing access to physical facilities, resources and employment (Sadeq, 2002). Therefore, *waqf* activities became part of Muslim's life in the past.

Ironically, in the last one or two decades the non-Muslim scholars had paid more attention to *waqf* study than Muslim scholars. It is evidenced by the inclusion of *waqf* subject into the M.A and B.A curricula in some universities which have specialization in Islamic history and culture (Hoexter, 1998). Some masters and PhD research on *waqf* were undertaken in western universities (see for example Deguilhem-Schoem, 1986; Christoffersen, 1997). Even the first international seminar on *waqf* which was held in Jerusalem in 1979 was organized by non-Muslim scholars.

At the mean time, *waqf* study in Muslim countries or majority Muslim population was not progressing very well. This is indicated by Rashid (2008) when he traced *waqf* literatures which had been produced during the last 30 years (from 1977 to 2007) in five countries i.e. India, Pakistan, Bangladesh, Malaysia, and Indonesia. The type of *waqf* materials being reviewed were books, published papers, PhD thesis, masters dissertations, newspapers/magazines, seminar proceedings, book reviews, reports and on-line materials. From his research Rashid found only 306 *waqf* materials had been produced during that time in the above-mentioned countries. Although this finding did not represent all Muslim countries, to some extent it implies that *waqf* literatures are still limited and hardly found. As a matter of

fact, publication could be one of the key drivers to ensure the success of revitalization (Cajee, 2007).

Actually the Islamic Development Bank had tried to promote the issue of *waqf* revitalization by sponsoring the international seminar on *waqf* in Jeddah, 1984. Unfortunately there was no subsequent conference after that for nearly twenty years. It was by the end of the twentieth century that the idea of *waqf* revival had become on the agenda of many Muslim countries (Cajee, 2008). There was awareness among Muslim societies that there is a call for promoting and advocating *waqf* matters through education, research, seminars and publication. Rashid (2008) was optimistic that the sign of *waqf* revival has been apparent all over Muslim countries.

The development of *waqf* literatures can be referred to Hoexter (1998) who divided it into three stages. In this paper, some studies will be mentioned by way of examples. The first step is considered as focusing on discovering the legal aspect of *waqf*. A study by Christoffersen (1997) is one of the examples of this stage whereby it provided framework and understanding of *waqf*. While the second stage focuses on socio economic impact of *waqf*, political influence on *waqf*, as well as the relationship between *waqf* and gender. Some instances for this stage are Sadeq (2002) who discussed the role of *waqf* in poverty alleviation; Pioppi (2004) who investigated the impact of political changes to the revival of

waqf in Egypt and Doumani (1998) who scrutinized how political economy shaped perception of family *waqf* in Syria. Moreover, Hoexter points out that the next stage is pertaining to comparison between *waqf* and other model of charity in different culture and the sociological and cultural conception of *waqf*. Studies by Bastani and Esmailabadi (2008) and Eslami (2008) which compared *awqaf* and trust in England are examples of this category. This division into stages might be somewhat artificial but Hoexter argues that it can show the trends and innovation on *waqf* study. In fact some studies which are categorized into first stage continue to be discussed recently. For instance, Kahf (2007a) reviewed the fiqh issues relating to *waqf* revival, though previously he has discussed this issue extensively (see for example Kahf, 1999). Kahf (2007a) argues that this issue still needs to discuss as there is a call for revising the classical Fiqh in order to promote *waqf* revitalization. There are indeed some new issues on *waqf* which were not highlighted by Hoexter such as the integration of *waqf* into Islamic financial institutions (Ahmed, 2007; Pirasteh and Abdolmaleki, 2007; Becic, 2007; Kholid, Hassan and Sukmana, 2007; to mention but few) and modern management of *waqf* institutions (for example Cajee, 2007; Ahmad Hidayat, 2007; Sadique, 2008 and Rashid, 2008). There is also a trend to conduct country case study for instance Deguilhem (2003) in Syria, Pioppi (2004) in Egypt, Abdel Mohsin (2005) in Sudan, Maina (2007) in Kenya, Shamsiah (2008) in Singapore and many others. Generally speaking, *waqf* literatures are

continuously increased along with the upsurge of interest in *awqaf* issues. This is positive improvement as Rashid (2008) points out that the publication of *waqf* literature is essential to help promoting *awqaf* revitalization in the entire Muslim society.

Some authors (for example Marsoof, 2004; Ihsan, Ayedh and Shahul, 2006; Cajee 2007, 2008) have asserted that the development of *waqf* in the future will greatly depend on the good governance of this institution. Therefore the attention to *waqf* accounting had just emerged as it is believed that accounting can improve the best practices in *waqf* institutions. The following section will specifically review the development of study on *waqf* accounting in the recent years.

3. The development of research on *waqf* accounting

The attention to study *waqf* accounting might be emerged recently, but accounting practice in *awqaf* institutions is not a new idea at all. Rather, it had been practiced extensively in managing cash *waqf* during the Ottoman Empire. This evidence was discovered by Yayla (2007) who examined the accounting practice in Sultan Suleyman *Waqf* of the Ottoman Empire. By scrutinizing Ottoman's achieve, he found that the book keeping process had been carried out at that time. Although the preparation of recording based on initiative and consciousness of *mutawalli*, it could prevent the malfunction and misuse of *waqf* asset.

Further more, Yayla discovered that accounting record was used to measure the performance of *waqf* by the Sultan's commissioners. This finding is supported by Toruman and Tuncsiper (2007) who have carried out a similar study i.e. accounting practices for cash *waqf* in the Ottomans. Toruman and Tuncsiper discovered the fact that accounting practice on *waqf* had been carried out from 1490 to 1928. It was single entry in nature, but it provided all information regarding cash *waqf* management such as annual income of properties, expenditures by day, month and year and information about the increment of *waqf* assets of the year. In short, these two studies have proven that accounting was used as a controlling devise for *waqf* management during the Ottoman Empire.

As a matter of fact, there is no extensive study on current practice of *waqf* accounting has been conducted. Literatures show that there are three main themes emerged concerning *waqf* accounting. Firstly, accounting for *waqf* is essential as a tool for better practice corporate governance of *waqf* institutions. Therefore, there is a call for setting up accounting and auditing standards for *awqaf* (see for example Marsoof, 2004; Adnan, 2005; Ihsan, Ayedh and Shahul, 2006; Cajee 2007, 2008; Pirasteh and Abdolmaleki, 2007; Rashid, 2007; Hasan, 2007). Secondly, accounting practices vary among *waqf* institutions; however the common phenomenon is the absence of accounting standards for *waqf* (Abdul Rahim et al., 1999; Siti Rokyah, 2005; Hisham, 2006 and Ihsan, 2007). Thirdly, due to *waqf* accounting

standards has not been established, it is necessary to learn the existing similar standard

such as Statement of Recommended Practice (SORP 2005) for charity or AAOIFI's

Statements of Financial Accounting to develop *waqf* accounting concepts and standards

(Ihsan and Shahul, 2007; and Adnan et al., 2007).

In the first category, accounting for *waqf* is perceived important to improve the

accountability and transparency of *waqf* institutions. Marsoof (2004) urges the improvement

in accounting procedures since it is one significant element for the betterment of *waqf*

institutions. This idea comes up from his study on *waqf* administration in Srilangka where he

found the management of *waqf* has not been optimized. Therefore, he suggested for

developing accounting procedures and standards for *waqf*. In line with Marsoof, Adnan

(2005) agrees to develop *waqf* accounting standards. He provides two alternative models of

waqf accounting where *waqf* can be seen as social organization or *waqf* is regarded as an

organization which tries to maximize its resources through investment activities. If *waqf* is

seen under the former assumption, thus, accounting for nonprofit organizations will be

sufficient to be adopted. However, if *waqf* is considered under the latest assumption,

accounting for commercial organizations can be adopted. While, Ihsan et al., (2006)

scrutinize the issues of transparency and accountability in *waqf* institutions among Muslim

countries. Based on review on previous studies, they found that there is lack of accountability

1593

and transparency in *waqf* assets management. There was also mismanagement by the *mutawalli* in administering *waqf*. By examining the proposal from the Charity Commission in the UK, they found four main ideas from the Charity Commission which considered can be applied for the improvement of *waqf* institutions, namely internal financial control, transparency and reporting, management of funds and code of Good Governance. Besides, there is a need concerning legal reformation of *waqf*, whereby the government of Muslim countries should consider re-evaluating *waqf* acts. Studies by Cajee 2007, 2008; Pirasteh and Abdolmaleki, 2007; Rashid, 2007; Hasan, 2007 did not specifically address to accounting issues, rather they aimed to review some factors which are believed could encourage the revival or *awqaf*. However, these authors are in the same view that accounting for *waqf* is needed as it is part of best practice and therefore can improve the revitalization process of *awqaf*.

The second theme is accounting practices vary among *awqaf* institutions. Actually this issue arises from the studies on *waqf* in Malaysia and Indonesia. A study by Abdul Rahim et al., (1999) was a preliminary one which explored the accounting as well as administration practices among State Islamic Religious Council (SIRC) in Malaysia. By reviewing *waqf* literature and conducting telephone interviews with the officers of selected SIRCs in Malaysia, this study discovered that there was no detailed information about *waqf* assets. In addition,

this study found that there was unsystematic management as well as lack of accounting

system for *waqf* assets, where no written procedure to record *waqf* financial transactions.

Abdul Rahim et al., perceive that this phenomenon occurred because there was no federal

authority to coordinate all *waqf* in Malaysia. Thus, for the improvement of *waqf* management,

Abdul Rahim et al., (1999) suggest the establishment of *waqf* department which will

coordinate *waqf* in Malaysia. In addition to management improvement, Abdul Rahim et al.,

also recommended the improvement of accounting procedures to ensure the internal control

of *waqf* administration.

A study by Siti Rokyah (2005) can be seen as the extension of the above study where

it examined the status of financial reports and determined the level of *waqf* disclosure by the

State Islamic Religious Councils (SIRCs) in Malaysia. Siti Rokyah also scrutinized financial

procedures adopted and the relationship between financial procedures and *waqf* accounting

practices. She found that SIRCs vary in terms of the status on producing the latest annual

report. Majority of SIRC had overdue and outdated financial reporting[291]. Besides, most of

SIRCs showed low level of disclosure in their annual report.

Another finding from this study showed that there was no specific guideline in

preparing and maintaining *waqf* report. Besides, majority of SIRCs did not provide separate

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[291] Siti Rokyah had conducted her study in 2004, while she found that the latest annual reports produced by SIRCs were
majority for the year 2000 and 2001. The rest vary from 1994 to 1997.

account for *waqf*. Thus, no information could be found regarding general *waqf* and specific *waqf* assets. Therefore, Siti Rokyah (2005) comes up with the suggestion of having proper guideline of manual in maintaining *waqf* assets. Besides reporting guideline, Siti Rokyah also suggests the acquiring of experienced accountants, since they will be able to help SIRCs in maintaining *waqf* accounts and reporting.

Hisham (2006) undertook another study on *waqf* accounting based on case study in the Federal Territory SIRC Malaysia. Hisam claimed that his study was different with Siti Rokyah's where his study was exploratory and descriptive, while the former study was more quantitative in nature. Furthermore, Hisham's study aimed to get better understanding with regard to *waqf* administrative and management which focused on accounting practices whereas Siti Rokyah's focused on financial reporting practices. Hisham conducted this study by reviewing the accounting practices in the Federal Territory SIRC and comparing *waqf* accounting with Statement of Recommended Practices for charitable (SORP 2005) in the UK. He combined interviews, observations and document reviews in his study to collect data. From his study, Hisham found that there was some improvement of *waqf* accounting in terms of record-keeping at Federal Territory SIRC. However, there was still no specific financial statement for *waqf* as well as no separation between different types of *waqf* was made.

Therefore, for an improvement he suggested some accounting practices for *waqf* based on SORP 2005.

In order to get better understanding with regard to accounting and management of *waqf*, Ihsan (2007) undertook another case study in two Indonesian *waqf* institutions. Although to some extent this study replicated Hisham's study, it relied on more than one case. Hence, Ihsan believes that through a multiple case design he will be able to show the relevance or applicability of findings to other settings. In fact, this study was claimed as the first attempt that tried to scrutiny the accounting aspect of *waqf* in Indonesia.

Ihsan used various methods to collect data i.e. interview, document review and direct observations. In this study, Ihsan had chosen three sites to be investigated, namely, Dompet Dhuafa (DD), Badan Wakaf Universitas Islam Indonesia (BW UII) and Badan Wakaf Pondok Pesantren Modern Gontor while the last was refused to be scrutinized.

The main finding of this study shows that there is different character and achievement of *waqf* management and accounting in DD and BW UII. This study also gives evidence that the two *waqf* institutions are different in terms of public accountability and transparency. Ihsan believed that the phenomenon of dissimilarity of accounting practices between DD and BW UII is due to the absence of accounting standards for *waqf* in Indonesia. It is therefore,

1597

Ihsan recommended to set up accounting standards and code of good corporate governance for *waqf* as it can improve the accountability of *mutawalli* in managing *waqf*.

There is common phenomenon from the above review i.e. the absence of accounting standards for *waqf*. Thus, due to *waqf* accounting standards have not been established, Ihsan and Shahul (2007) opine it is necessary to learn the existing similar standard such as Statement of Recommended Practice (SORP 2005) for charity. Ihsan and Shahul take the view that the structure of SORP 2005 is sophisticated and could encourages the trustee of charity to be more accountable. They suggest developing *waqf* accounting standards based on SORP model with some modification. Adnan et al., (2007) agree with this idea. In addition to learn SORP 2005, Adnan et al., propose an idea to investigate AAOIFI's Statements of Financial Accounting to develop accounting conceptual framework and standards for *awqaf* institutions.

The above discussion gives insight that accounting for *waqf* is important for the improvement of *waqf* management. Some authors note that accounting is a means to discharge *mutawalli*'s accountability to many parties (Hisham, 2006; Ihsan and Shahul, 2007; Adnan et al., 2007). This is in line with Lewis (2006) who asserts that one of the objectives of accounting system is to discharge accountability. Nevertheless, the phenomenon of dissimilarity of *waqf* accounting could be due to the different understanding of accountability

by *mutawalli*. If there is no clear consensus about accountability, thus the means to deliver it will vary (Sinclair, 1995). To remedy this, there should be a widely agreed definition about accountability so the user's needs could be determined (Cordery and Baskerville, 2005). Cutt and Murray (2000) agree that defining accountability is essential as a basis of performance measurement, evaluation and reporting. In short, there is a desire to assert what accountability in *waqf* should be about. The following section will therefore discuss the construction of accountability in *awqaf* institutions. Some theoretical underpinning relating to accountability in non profit organizations and public sectors will be reviewed as the basis of discussion.

4. The theoretical framework of *waqf* accountability

4.1. Defining accountability

One could be pondered, why defining the meaning of accountability in *awqaf* is very important? Sinclair (1995) says that nobody will argue with the need for accountability, however, it has discipline-specific meanings whereby many parties such as auditors, political scientists, philosophers, have their own definition about accountability. In short, how to define accountability will depend on the ideologies, motifs, and languages. This discussion will not lead to the standardization of accountability concept in *awqaf*, but at least there should be a

widely agreed definition among academicians. It should be noted that the accountability discussed here is limited to *mutawalli* accountability as it is part of managerial issues.

In the charity context, Cordery and Morley (2005) proposed the charity accountability model as they assume that this sector has specific characteristic compared with business entity. In line with this, Cutt and Murray (2000) agree that accountability framework in non-profit organizations should be defined as these institutions have a broad range of constituencies. Likewise, *awqaf* is not only charitable and non-profit in nature, but also located in religious setting. It is therefore, defining accountability will be crucial as the basis of reporting and performance measurement.

In the new model of administrative reform, the accountability is heightened through managerial control (Sinclair 1995). Hence, from managerial perspective Sinclair defines accountability as the requirement to those with delegated authority to be answerable for producing outputs or the use of resources to achieve certain ends.

While, Cutt and Murray (2000) opine that the accountability is:"[t]he obligation to render an account for a responsibility that has been conferred". Furthermore, they believe that formal definition of accountability presumes the existence of at least two parties, one who allocates responsibility and one who accepts it with undertaking to report on, account for, the manner in which it has been discharged. Similar with above definition, Gray et al., (1997)

has summarized the definition of accountability as "[t]he duty to provide account of the actions for which one is held responsible.

The above definitions of accountability (hereafter is referred to as conventional accountability) seem appropriate for *awqaf* since *waqf* is exposed to managerial issues. Nevertheless, these definitions have some weaknesses and fail to demonstrate accountability in Islamic perspective for some reasons. Firstly, according to Al-Safi (1992) that man-made definition of accountability is aimed to establish a certain material status for the individual and community. Indeed, accountability in Islam (*taklif*) can be seen as everyone is accountable for their actions on the Day of Judgment.

Similarly, Haniffa (2001) takes the view that the ultimate accountability in Islam is to Allāh since all deeds will be counted in the hereafter. Haniffa's background is the following verse of the Holly Qur'an: "To Allāh belongs all that is in the heavens and on earth. Whether you show what is in your minds or conceal it, Allāh will call you to account for it" (Qur'an, Al-Baqarah 2:284).

The second reason why conventional accountability might not be appropriate is because in the western society, fulfilling accountability is regarded as nothing to do with religious matters. Lehman (2004) analyses that the current western societies have neglected the religious dimension in their social systems. While in Islam, rendering an account to

discharge accountability is identified as part of ibadah (servitude to Allāh) and *amal saleh*

(virtuous deeds) in attaining *al-Falah* (benefit for the people in this world and the hereafter

(Haniffa, 2001).

Due to the conventional accountability does not show accountability to Allāh, Shahul

(2000) therefore, comes up with the proposal of dual accountability where as Allāh's

khalifah,[292] human beings are being accountable for all resources entrusted; besides they

should fulfill any contract made among them. Shahul named it Islamic accountability. This

kind of accountability is most appropriate for *waqf* not only because the nature of *waqf* is

based on religious motivation but also it involves the interest of ummah (public). Hisham

(2006) and Ihsan (2007) agree the accountability of *mutawalli* can be seen as dual

accountability, although it needs further elaboration as to whether it can be manifested. The

manifestation of *waqf* accountability will be discussed in the following section.

4.2. The manifestation of *waqf* accountability

Before discussing how the manifestation of *waqf* accountability is, the proposed *waqf*

accountability by Hisham (2006) and Ihsan (2007) will be presented. These two studies are

chosen because as far as *waqf* study is concerned, there is no other study which discuss

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[292] Khalifah : vicegerent

waqf accountability model. The *waqf* accountability model proposed either by Hisham (2006) or Ihsan (2007) are very much similar, although Ihsan claim that his is the extension of Hisham's work. Originally, this model was developed from Shahul's proposal of dual accountability (2000). The latest model of *waqf* accountability is presented below:
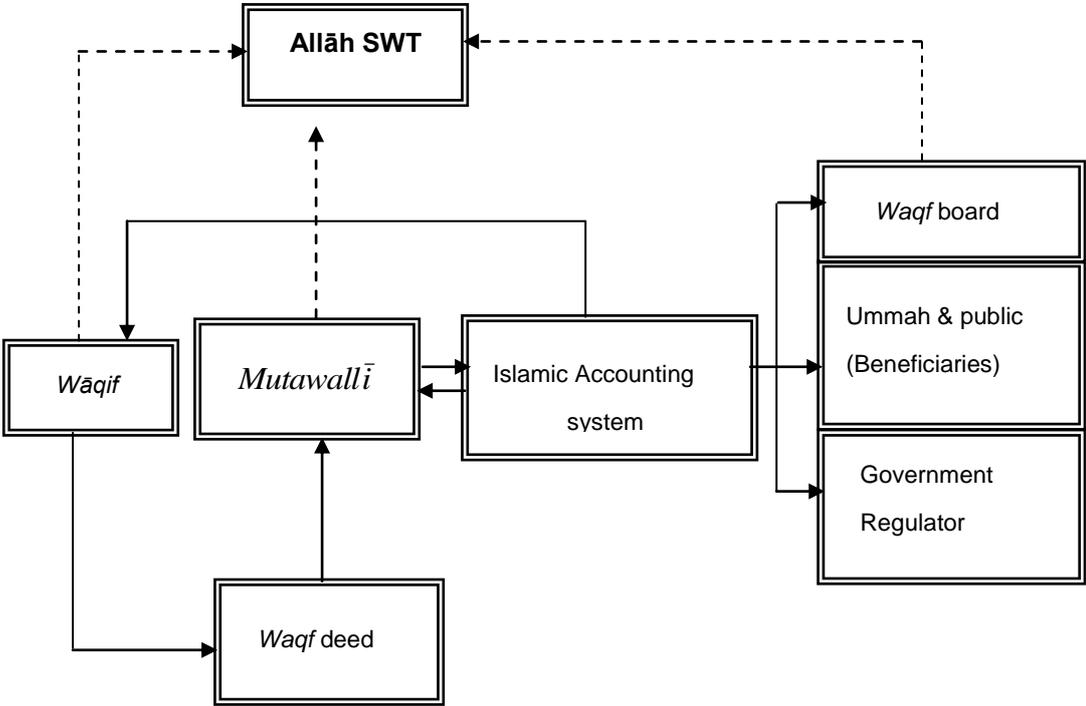
Figure 1.The *waqf* accountability Model (Source Ihsan: 2007)

Given the above definition of dual accountability in *waqf*, now there is a question to answer: how to discharge this accountability? Previously, it has been mentioned that *waqf* is a religious deed besides it is meant for public benefit. Therefore in the first place, all parties; *mutawalli*s, wāqif*, waqf* board and regulators should discharge their accountability to Allāh. This accountability is considered as the primary accountability (*hablun min Allāh*). In the

above figure, it is represented by dashed arrows which means transcendent, as it cannot be perceived through the senses.

Although this kind of accountability is transcendent, Shahul (2000) argues it can be made visible through the fulfillment of all Allāh's commands and avoidance of His prohibitions (which is guided by Qur'an and hadist). For instance, in managing *waqf* assets, *mutawalli* cannot violate shariah rules. At the same time, *mutawalli* should show his accountability in fulfilling *waqf* objective as wāqif whishes. Besides, *mutawalli* has to ensure that *waqf* will contribute to the betterment of Muslim society.

The metaphysical nature of accountability to Allāh does not imply that it has nothing to do with reporting. Cutt and Murray (2000) state that, in nature, accountability manifests itself as information through management information systems and associated methods of analysis and evaluation. It is true that all deeds are recorded by the Angels and account to Allāh (Al-Qu'ran Qaf 50:17-18). But the accountability to Allāh (*Hablun min Allāh*) is interrelated accountability to human beings (*hablun min An-nas*) (Hassan, 1995 as quoted by Abdul Rahim, 2003). Therefore, in this sense a clear reporting from *mutawalli* will enable the user to see how compliant he is to the shariah rules in managing *waqf* assets. This is in line with Cajee (2007) who proposes the idea of providing shariah advisory services in order to

ensure the shariah compliance of *waqf* management. For further development he suggests the call for shariah auditing to make sure the correct application of *waqf* assets.

In another place, *mutawalli* should be responsible to various stakeholders. Defining stakeholders for nonprofit organizations might be elusive as they involve many audiences. Hisham (2006) and Ihsan (2007) identify the stakeholders of *waqf* as wāqif, *waqf* board, regulator, beneficiaries, and community in large. The above-mentioned stakeholders are classified as major stakeholders by Cajee (2007). In addition he points out *waqf* stakeholders could be wider whereby it involves NGOs, politicians, business community, academics and Islamic Financial Services[293]. In short, *waqf* stakeholders are multilateral and dynamic.

With regard to the above *waqf* accountability, Ihsan (2007) explains that accountability to stakeholders could be discharged through Islamic accounting system. It means that *mutawalli* will provide report to wāqif, *waqf* board, beneficiaries and community. Hisham (2006) takes the same view with Ihsan. However, both Hisham (2006) and Ihsan (2007) did not explain what kind information should be provided by *mutawalli* besides to whom the priority should be given. It is important to identify the interest of different parties in the stakeholders group so *mutawalli* can provide relevant information to them. Cordery and

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[293] There are two types of waqf i.e. waqf ahli (family waqf) and waqf khairi (public waqf), but the discussion here is limited to waqf khairi. The context of waqf stakeholders mentioned might not be appropriate for waqf ahli as it is only involved several people in certain family.

Morley (2005) recognize that the identification of stakeholder's interest will help improving accounting standards or such regulations.

In the widest sense, accountability is more than accounting, focusing on the information needs of users (Jones and Pendlebury, 1996 in Connoly and Hyndman, 2004). Therefore, with regard to information should be provided by *mutawalli*, it would be relevant to quote Hayes (as cited in Cordery and Morley, 2005) who classifies the types of accountability in the charity sectors to the stakeholders as follows:

- Fiscal accountability i.e. to make sure that the money has been spent as agreed and according to the appropriate rules

- Process accountability that is to ensure that proper procedures has been followed to provide value for money

- Program accountability i.e. to ensure that institution is effective in achieving its objective

- Accountability for priorities i.e. fulfilling user needs appropriately.

Since *waqf* has some similarities with charitable organization[294], we can adapt the above classification to determine what kind information should be provided by *mutawalli*. It should be noted that discharging accountability should consider both quantitative and qualitative

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[294] The similarities are in terms of charitable activities and nonprofit organization

reporting (Cordery and Morley, 2005). Quantitative reporting can be in terms of financial performance of *waqf* institution, i.e. how much is the cost expensed or how much money is being invested to develop *waqf* assets. Whereas qualitative reporting is non-financial information which inform the users whether any objectives are achieved and how is the progress of *waqf* programs.

Further, we need to elaborate the issue concerning the urgency of stakeholder's demand on certain information. This discussion does not intend to argue that *mutawalli* should pay attention to all stakeholders; rather *mutawalli*s have to pay certain kinds of attention to certain kinds of stakeholders. It is predicted that all stakeholders of *awqaf* do not have the same power to pressure *mutawalli*. For instance, the beneficiaries of *waqf* will be difficult to push *mutawalli* to provide financial information, due to their lack of power to do so. Beneficiaries may have expectation on moral and honesty of *mutawalli*, but that alone, leave them as non-dominant stakeholders. However, regulator and *waqf* board most probably can impose their will to *mutawalli*. Nevertheless, if regulator acts as the beneficiaries, they will be more powerful to coerce *mutawalli*.

Actually the above description had been explained by Mitchell, Agle and Wood (1997) in their theory of stakeholder salience-the degree to which managers give priority to

competing stakeholder claims. The following section therefore will discuss the stakeholder

salience theory in its applicability to explain the multiple demands of *waqf* stakeholders.

4.3. Stakeholder salience and its application to *waqf* stakeholders

Mitchell et al., (1997) propose the qualitative classes of stakeholders which can be identified

by the following attributes: 1) stakeholder's power to influence firm, 2) the legitimacy of

stakeholder's relationship with the firm, 3) the urgency of the stakeholder's claim on the firm.

Based on the above attributes, Mitchell et al., (1997) propose seven types of stakeholders:

three possessing only one attribute, three possessing two attributes and one possessing all

three attributes. The rationale behind stakeholder salience theory is management has limited

time and resources to provide information to various stakeholders. Management therefore

has to focus on stakeholder's needs. The types of stakeholders based on Mitchell et al.,

proposal (MAW) is presented in the following figure:
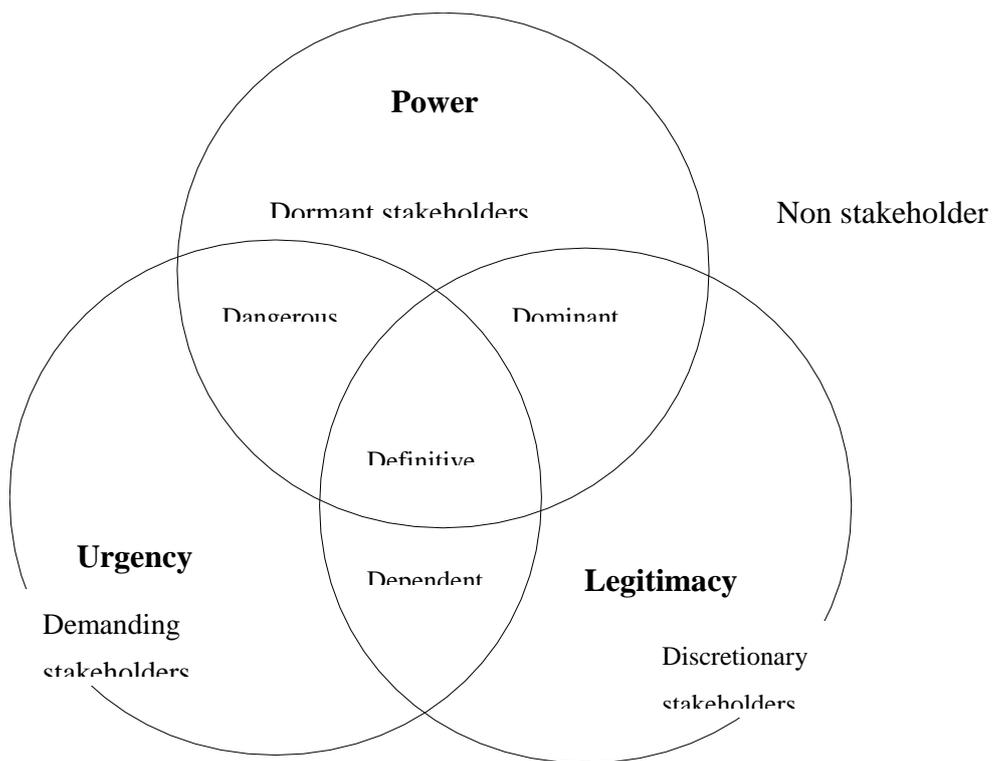
Figure 2: Stakeholder typology (Source: Mitchell, et al., 1997)

Mitchell et al., (1997) assume that the salience of particular stakeholders will be low if only

one tribute is present, moderate if two attributes are present and high if all attributes are

present. Based on the figure above, Mitchell et al., classify stakeholders into three general

classes. Firstly, latent stakeholders are those who possessing only one of the three attributes.

It includes dormant, discretionary and demanding stakeholders. Secondly, expectant

1609

stakeholders are those who are possessing two attributes and include dominant, dependent and dangerous stakeholders. Definitive stakeholders are those who possessing all three attributes. Lastly, those who possessing none of these attributes are considered as non stakeholder. We will elaborate how MAW model is applied in *awqaf* context. In this paper, the classification of *waqf* stakeholders is adapted from Cordery and Morley (2005)

The first category is latent stakeholders which include dormant, discretionary and demanding stakeholders. Dormant stakeholders are those who possessing power to impose their will to organization, but by not having a legitimate relationship or urgent claim. Normally, dormant stakeholders have little or no interaction with the organization. In the *waqf* context, the samples of member of this class are *waqf* board and government. While, those who possess the attribute of legitimacy are classified as discretionary stakeholders. The potential wāqif and donors are the instance for this category as they have no power to influence organization and no urgent claims. The third class in latent stakeholders is demanding stakeholders. Mitchell et al., (1997) explain that demanding stakeholders are those who are with urgent claims but having neither power nor legitimacy. They are considered as the "mosquitoes buzzing in the ears". The press is probably the sample to represent the member of this class.

When the latent stakeholders acquire another attribute, they will move to expectant stakeholders which classify under dominant, dependent and dangerous stakeholders. Dominant stakeholders possess both power and legitimacy. They have right to claim and have ability to act on this claim. Existing wāqif is the representative of dominant stakeholders. The stakeholders who have legitimate claims, but lack power is considered as dependent stakeholders as they depend upon others. The sample of dependent stakeholders is beneficiaries of *awqaf*. When stakeholders are characterized by urgency and power, they fall into dangerous category of stakeholders. Cordery and Morley (2005) give social justice lobbyist as the sample of member of this class. Although Mitchell et al., (1997) note that the notion of dangerous is somewhat uncomfortable, failure to identify dangerous stakeholders would result in missed opportunities to mitigate the potential danger.

When all three attributes is present in one group of stakeholders, they will be classified as definitive stakeholders. Perhaps, *mutawalli* and staff are in this category. It should be noted that this classification and example are not fixed. Baskerfille-Morley (2004) believes that the membership of one class could be adaptive and dynamic. This is in line with Mitchell et al., (1997) when they noted that any expectant stakeholder could become a definitive one by acquiring the missing attribute. An empirical work by Magness (2008)

supports the MAW model whereby stakeholders is not static, rather dynamic and can move

into another class of stakeholder.

Although MAW proposal was originally address to commercial entity, Cordery and

Morley (2005) had applied this model to charitable sectors. Similarly, in this paper we will

apply MAW proposal by combining it with Hayes proposal of accountability.

4.4. The combination of Hayes accountability and MAW model

Having discussed Hayes accountability and the salience of stakeholders based on Mitchell et

al., (1997) proposal; we are now turning into discussing how the two proposals could be

combined. Cordery and Morley (2005) have used both Hayes and MAW to explain charity

accountability. In the author's opinion, the use of Hayes and MAW is possible to explain

mutawalli accountability to *waqf* stakeholders. It does not mean to argue the previous

discussion regarding dual accountability. Rather it intends to make further explanation how

mutawalli accountability should be discharge to various parties. The following description will

illustrate the need of *waqf* stakeholder for certain information. It should be noted that the

membership of stakeholder in the class is not fixed, rather they can move and change

depend on situation and time

1612

As mentioned early, *mutawalli* and staff are considered as the definitive stakeholders. Keating and Frumklin (2003) point out that the growing interest in professionalization of non profit sectors has placed the staff in the centre of accountability equation. Therefore, as the definitive stakeholder, *mutawalli* and the staff will need all information pertaining to *waqf* administration. Information about fiscal, process, program and priorities will give a visibility to the resources, activities and achievements, thus enabling informed discussions and decisions for the *mutawalli*.

Although there is severe criticism about government intervention on *waqf*, almost all Muslim governments now involve in controlling *awqaf* management (Kahf, 2007b). As the dormant stakeholders, the government and regulatory body may require fiscal information (Keating and Frumklin, 2003). Lee (2004) opines that providing financial reporting to government has become compulsory for non profit organizations as part of their external accountability. This information will help *waqf* regulatory body in monitoring *awqaf* institutions.

In the charity context Cordery and Morley (2005) mention that donors will normally ask for financial information from the trustee. Similarly, the information about fiscal is also required by wāqif to assess the performance of *mutawalli* in managing *waqf*. However, in waqf context, financial per se is not enough. Mutawalli needs to inform wāqif whether he/she has fulfilled the objective of *waqf* as the wāqif whishes. Therefore, information about program

is also important for wāqif. This is in line with agency theory whereby reporting is needed for

contractual purposes (Cordery and Baskerville-Morley, 2005). The *Malikis* and others said

that the proprietary of *waqf* assets remain in wāqif (Kahf, 2007b). Hence, wāqifs have the

right to replace *mutawalli* if they think that *mutawalli*'s performance is not as expected. In

other words, wāqifs could be a definitive stakeholder if they consider it is "urgent" to do so.

While dangerous, demanding and discretionary stakeholders who are represented by

social justice lobbyist, press and potential wāqif respectively, might claim the information

about program i.e. how effective *waqf* in achieving the result intended. Keating and Frumklin

(2003) note that the stakeholders of non profit organizations normally need such program

reporting to make decision about their support and participation on the organizations in the

future. Other information such as financial, process and priority could be less relevant for

them. Most of charitable organizations stakeholder indeed perceive that non-financial

information is important in assessing output (Hyndman, 1990)

The last category but not least is beneficiaries who are categorized as dependent

stakeholders. They have lack of power (Cordery and Morley (2005); hence it is difficult for

them to coerce *mutawalli* to provide complete information for them. Their concern is more to

the fulfillment their interest on *waqf*.

The above scenario can be drawn into the following figure:
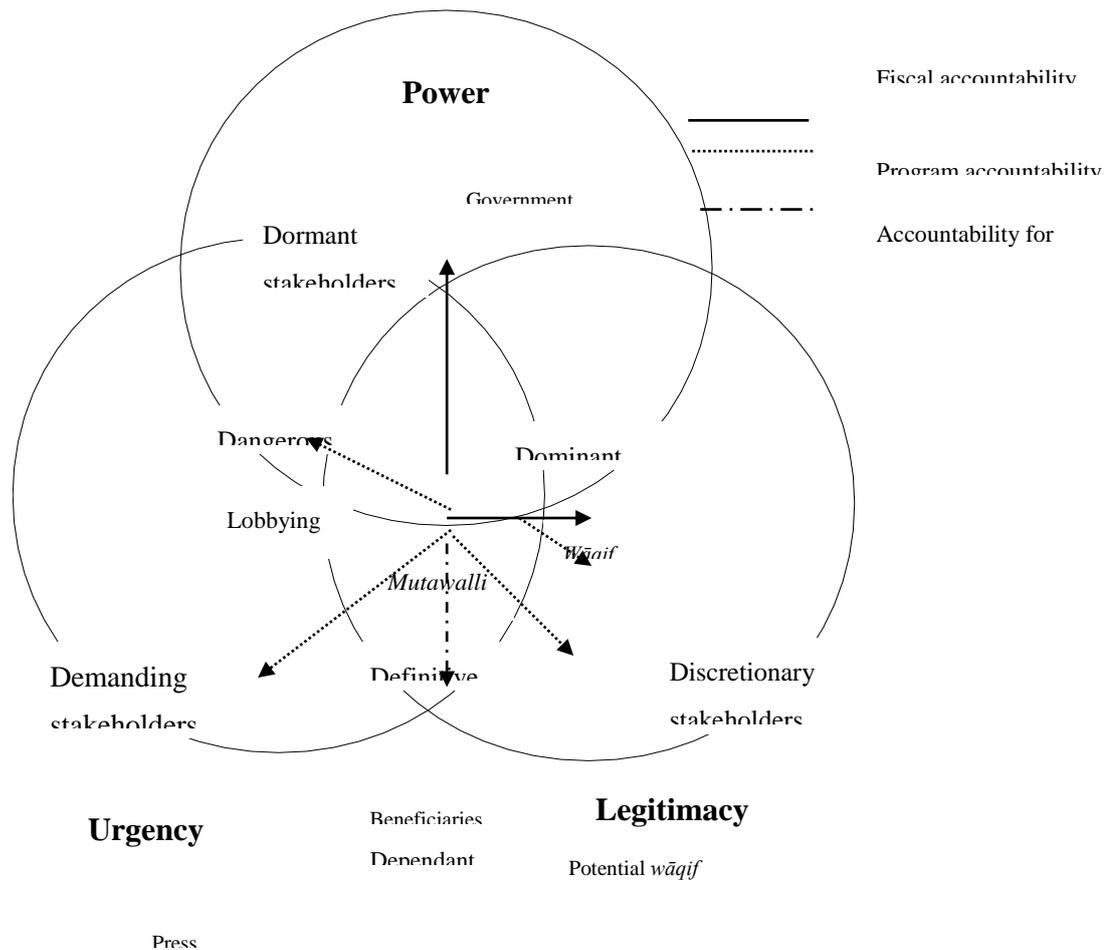
Figure 3: Application of Hayes accountability to MAW model

The information about fiscal, program and process are discharged in formal manner. For instance, fiscal information is provided in the financial report; program information is reported in *mutawalli* report; while process will be informed through performance reporting. Whereas, information about priority can be more informal and unstructured compared to the former information. Yet, Cordery and Morley (2005) note that the informal and unstructured information are more likely to be provided in a culture with high levels of trust.

5. Concluding remarks

As earlier discussion demonstrates, the issue of *waqf* revitalization has been on agenda of Muslim communities. Along with this, the attention to *waqf* accounting had just emerged as it is believed that accounting can improve the best practices in *waqf* institutions. Review on *waqf* studies indicates the common phenomenon i.e. the absence of accounting standards for *waqf*. Nevertheless, the phenomenon of dissimilarity of *waqf* accounting could be due to there is no clear consensus about accountability, thus the means to deliver it will vary.

In this paper we agree that Islamic dual accountability is the most appropriate model to explain accountability in *awqaf* sectors. In the first place, *mutawalli* is accountable to Allāh SWT. This kind of accountability is transcendent in nature, yet it can be made visible through the fulfillment of all Allāh's commands and avoidance of His prohibitions. In another place, *mutawalli* should discharge his accountability to various parties such as wāqif, *waqf* board, government and beneficiaries. Due to previous *waqf* studies did not capture the dynamic aspect of stakeholders, this study suggest MAW model to explain the nature of stakeholders in the respective classes. By combining MAW model with Hayes accountability, this paper comes up with the proposal regarding what kind information should be provided by *mutawalli* to various *waqf* stakeholders.

This paper has some research implications. Firstly, it needs empirical evidence to justify the stakeholder salience in *waqf* context. Secondly, since this paper suggests adapting Hayes accountability, it requires further scrutiny to what extent *waqf* stakeholders need certain information. Scrutinizing stakeholder salience and identifying the user needs will help *mutawalli* in administering *awqaf* effectively. Lastly, perhaps cross-country study will enrich *waqf* literature as none of previous studies did comparative study. In addition, it will enable Muslim countries to learn each other in order to improve *waqf* administration.

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5.3 Social and Environmental Accounting

SHOULD CORPORATE SOCIAL RESPONSIBILITY BECOME MANDATORY?

A VIEW FROM INDONESIAN INVESTOR

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Abstract

The obligation for Indonesian companies whose activities deal with or related to the management of natural resources to carry out corporate social responsibilities (CSR) program as stated in article 74 Law no 40, 2007 on Limited Corporation (PT) has sparked a wide debate. The proponents of this rule believe that such requirement is necessary given the low commitment of many companies in Indonesia in implementing CSR. The opponents, however, argue that such regulation will be perceived by investor as 'undisclosed tax burden'. Such regulatory background provides a unique setting to investigate whether equity investors in Indonesia Stock Exchange (BEI) has reacted to the information surrounding the event date related to the passage of mandatory CSR implementation bill. This research, examine whether the issue was used by investor in determining their decision. The cumulative abnormal returns in the event windows are used as a measurement to examine whether investor responded positively or negatively to the requirement. We present some evidence that on average, equity investor reacted positively to the news that related to the approval of mandatory CSR implementation bill. We also find that the investor reaction is determined by the size of firms, leverage, and by questioning the engagement of the firms with mining industry. This research supports the view that CSR is a value-enhancing investment that may increase firms' future value. The research outcome result is also relevant with prior studies which suggest that CSR implementation is beneficial to investors.

Keywords: *Event Studies, Corporate Social Responsibility, Mandatory CSR Implementation*

1. Introduction

In responding to perceived irresponsible conduct of some major companies in Indonesia toward environment [295], the Indonesian House of Representative (DPR) has endorsed the obligation for firms whose activities deal with or related to the management of natural resources to carry out a corporate social responsibility (CSR) program. This mandatory rule is enacted under article 74 of Law no. 1, 2007 on Limited Company (PT). Such obligation has sparked debate on whether it would beneficial to the companies. The proponents of this rule (e.g. the lawmakers and non government organisation) believe that such requirement is necessary given the low commitment of many companies in Indonesia in implementing CSR. Their argument is supported by some studies that found CSR programs are in line with company's objective to maximize shareholders' value (Stigson 2002). The opponents (e.g. business managers and CSR practitioner), however, argue that such regulation will be perceived by investor as 'undisclosed tax burden' and it may shift the focus of attention to the amount of spending, not the outcome of CSR program itself (Lingga 2007).

This study examines equity investor reactions to news related to the approval of mandatory CSR implementation bill and to assess whether shareholders consider the rule

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[295] For instance severe environmental destruction and pollution of PT Inti Indo Rayon in North Sumatera, PT Newmont Minahasa Raya in Minahasa, and PT Lapindo Brantas in East Java.

as beneficial or damaging. Our analysis focuses on seven sub industries that are most likely to be affected by the passage of the bill (i.e. sub industries whose activities deal with or are related to the management of natural resources). These sub industries include: oil and gas, coal and metal, pulp, paper and timber, energy and plantation.

The purpose of this study is to measure market's (investors') reaction on the mandatory of CSR implementation rule for firms whose activities deal with or are related to the management of natural resources. Moreover, this study attempts to answer some fundamental issues surrounding CSR concept, which includes: (1) investor response to information related to CSR program (2) the value of CSR's regulation in the eyes of the investors (3) investors' willingness to have additional CSR cost.

We present some evidence, which shows that, on average, equity investors have reacted positively to the news related to the approval of mandatory CSR implementation bill. Our research's outcomes are relevant with prior studies, which suggest that CSR will help investor in two ways; firstly, it minimizes the exposed risk of the companies (Heugens 2007; Chih, Shen and Kang 2007; Sarre, Doig and Fiedler, 2001) thus it may enhance company's performance in the long run through increasing customer satisfaction (Luo 2006) Secondly, CSR is beneficial to maintain reputation and better relationship with other stakeholders

(Rowe 2007; Blake 2006). In summary, our result supports the view that CSR program will contribute positively to the firms' value.

This study is significant for a number of reasons. First, it sheds a light for further research on market reaction toward CSR issues. Such research will help to end controversy over management's responsibilities; whether they only focus on maximizing shareholder value, or they also have responsibility for the social and environment. Research shows that there is a consistently strong relationship between CSR implementation and share price performance. This will prove that there is no conflict between management's role in maximizing shareholders' value with them being responsible for social and environment. Second, our study will be a constructive idea for the regulators and policymakers in other countries to be used as an answer to the question whether CSR implementation best left regulated or otherwise.

The remainder of this paper is organised as follows; section 2 describes the regulatory background of mandatory CSR implementation bill, section 3 discusses hypothesis development, section 4 describes sample data, section 5 illustrates research methodology, section 6 discusses the empirical result and section 7 concludes.

2. Regulatory Background

Indonesia has already had a plenty of legislation governing environmental and social issues. The main problem is that the laws are scattered and separated, administered by different agencies and departments, which sometimes redundant and occasionally even contradictory. Clearly, some may argue that there is no need to create yet another set of laws in this area. The house, however, has another argument. They believe that such requirement is necessary to promote the implementation of CSR that eventually may reduce the numbers of environmental and social problems that lie between industry and community.

Despite strong protest from the business community, the provision requiring mandatory participation in CSR programs was retained, although it was modified to cover only companies in natural resource-based sectors rather than all sectors. The bill was finally approved on July 20, 2007 and became operative on August 16, 2007. Article 74 of the bill stipulates that all companies engaged in the exploitation of natural resources must conduct environmental and social responsibility programs that will be liable for sanctions if they fail to do so. The funds expended on CSR programs are to be considered as part of a company's annual operating costs, and so it can be set off against taxation liabilities. The bill also mandates the disclosure of activities related to environmental and social responsibility

programs in companies' annual reports. This stipulation has broad corporate support given

that disclosure is regarded as a "best practice" that has been required by the Capital Market

Supervisory Agency (BAPEPAM) since 2006 (Darwin and Guntensperger, 2007).

The mandatory requirement of CSR implementation program in Indonesia provides a

unique setting for researchers to investigate the investors' reaction upon firms' social and

environmental responsibility. The mandatory requirement is a response to irresponsible

conduct of some major companies in Indonesia toward social and environmental issues. We

examine one prominent CSR mandatory rule-related event. The event is expected to

influence the market reaction upon the effectiveness of mandatory CSR implementation bill.

We used the latest release of mandatory CSR implementation bill-related news in the

"Kompas" and "Bisnis Indonesia" as the two leading national and business newspapers in

Indonesia.

3. Hypotheses Development

3.1 Mandatory CSR Rule and Stock Market Reaction

The roles of government in imposing CSR practice diverge from one country to

another country. Bryane (2003) posits two arguments related to mandatory CSR and non

mandatory CSR regulation. First, an argument which consider role of government should be

limited. Since any regulation of CSR will only lead a company to meet minimum requirement

and may vanish competitive advantage of some companies which had previously performed

CSR. Second, an argument which believes that the guideline and moral campaign are not

sufficient, hence government should play more active role in promoting CSR. The first

argument is similar with neo liberalist's view of government role in economic and business

which mostly develop in countries like United Kingdom (UK) and United States (US) where

government role in imposing the CSR is limited only as catalyst or fine-tuning the process.

The second argument develops in countries like France and some Asian countries where

government play more active role by giving incentives for companies that perform CSR.

However, none of those countries above move further to make regulations that mandated

companies to have CSR program.

Neo classic economist suggests that managers' main objective is to make decisions

in maximizing shareholders' value (Friedman, 1970). This argument then challenged by

Freeman with his "stakeholder theory" which states that management can only maximize

shareholders' value by maintaining a good relationship with other stakeholders (Freeman,

2004). Support to stakeholder theory has been stronger recently since there is an increasing

pressure from other stakeholders (e.g. employees, local community and environmental

lobbyist) (Sundaram and Inkpen, 2004) for companies to be more accountable on environmental issues (Hines, 1991).

Furthermore, Gilkinson (1994) provides evidence that CSR programs "…can enhance relations with a variety of stakeholders, including shareholders, lenders, insurers, underwriters, suppliers, customers, environmental activists and employees". In addition, Elkington (1994) stated that firm now facing difficult challenge to work out new ways of co-operating with their suppliers, community and other stakeholders to maintain its sustainability and also its competitive advantage. Therefore, Elkington (1997) suggested the use of "triple bottom line' (financial, environmental and social) as alternative for financial criteria in measuring company performance.

In the more recent study, Stigson (2002), documents that more company adopt and implement CSR programs since they belief CSR is inline with company's objective. Mackey, Mackey and Marney (2007) document that CSR might enhance company performance in the long run in term of share price performance. They also assert that even though CSR program reduce the present value of firm's future cash flows, but it will not affect firm's shareholders' value. Meanwhile, Chih, Shen and Kang (2007) found that CSR has a correlation with lower earning management and Sarre, Doig and Fiedler (2001) document that CSR will reduce company's exposes risk. In relation with market reaction, Bird, Hall, Momente and Reggiani

1631

(2007) found that CSR programs is value-relevant, especially since CSR is related to environmental and employee-relations.

Based on our reviews on what prior studies have found, we formulate our hypotheses as follows:

H1:   *The stock market reaction toward firms whose activities are to deal with or are related to the management of natural resources during the event window of the mandatory rules on CSR implementation is positive.*

3.2 Determinants of Stock Market Reaction toward Mandatory CSR Rules

Besides providing evidence of the market reaction to mandatory CSR implementation law as measured by abnormal return, this research also attempts to explore the factors that are attributed to such stock movements. We speculate that market did not take the information related to CSR for granted, They will relate such information to the economic characteristic of each company such as its size, profitability and leverage. This research, therefore, also aims to investigate the economic determinants that drive the market reactions toward mandatory CSR implementation law. We document the following contextual factors that are associated with the magnitude of abnormal returns for mandatory CSR related event.

a. Size

Previous studies suggest that companies with bigger size tend to disclose more of CSR information. Bigger company will be more exposed to social and environmental risks, since the company will deal with many parties through its activities and products (Hackston & Milne, 1996). Bigger companies made themselves to be more politically visible (Belkoui & Karpik, 1989). Based on that argument, the mandatory CSR law will not affect the companies much as they have bigger size and the experience to perform and report information of CSR beforehand. Thus, it will increase the accuracy of market expectation and lower market surprise (Na'im & Rakhman, 2000). Smaller companies, on the other hand, do not have such experience and expertise or probably they have never conducted any CSR program before. Therefore, the second hypothesis for this study is:

H2: *In responding to mandatory CSR implementation bill, the stock market will react more positively to smaller firms whose activities are to deal with or are related to the management of natural resources.*

b. Profitability

The implication of CSR legislation may incur additional costs. Companies that have high profitability may not be affected much by such additional cost. The high profitability will supply companies flexibility to manage and report CSR programs (Hackston & Milne, 1996).

Therefore, more profitable firms are more likely to be able to afford implementing the CSR programs. As such, the third hypothesis in this study is:

H3:   *In response to mandatory CSR implementation bill, the stock market will react more positively to more profitable firms whose activities are to deal with or are related to the management of natural resources.*

c. Leverage

Leverage is used as a proxy for firm's risks . Mandatory CSR implementation law is claimed to provide benefit in the form of "social and environmental license" by maintaining a good relationship with other stakeholders (Freeman, 2004). As discussed in preceding section, more companies now implement CSR programs and report it in their annual report. Companies willing to invest in CSRbelieve CSR programs are inline with their business objectives (Stigson, 2002) and it may create long term sustainability in their business processes. When a firm creates long term sustainability in their business processes, it is expected that the risk of the firm will also reduce. Therefore, the fourth hypothesis in this study is:

H4:   *In response to mandatory CSR implementation bill, the stock market will react more positively to higher leverage firms whose activities are to   deal with or are related with   the management of natural resources.*

d. Industry

As stipulated by article 74, Law no 40/2007 on PT, the obligation to carry out CSR program is for Indonesian companies whose activities are related with the management of natural resources. As the mining firms are often associated with the exploitation of the natural resources that may cause a significant environmental damage, we would like to know specifically whether the firms experience more positive market reaction toward the mandatory of CSR implementation news. Therefore, the fifth hypothesis of this study is:

H5: *In responsing to the mandatory of CSR implementation bill, the stock market will react more positively to mining firms whose activities are related to the management of natural resources.*

4. Data

Table 1 shows the sample selection procedure. We started with 35 firms listed in Indonesia Stock Exchange (BEI) that are categorized as firms whose activities are dealing with or are

related with the management of natural resources. Then we filtered out 1 firm due to its

inactive share price movement, 9 firms for their insufficient share price data and 4 firms for

their confounding events. It limits our sample into 21 firms. Our share price data is obtained

from Indonesia Securities Market Directory (ISMD).

[INSERT TABLE 1 HERE]

Table 2 illustrates that the sample used in this study is distributed across 4 industries and 7

sub industries based on IDX industry classification. The sample constitutes 10 firms from

Mining industry (47%), 8 firms from Basic Material and Chemical industry (38%), 1 firm from

Infrastructure, Utility and Transportation industry (5%) and 2 firms from Agriculture industry

(10%).

[INSERT TABLE 2 HERE]

5. Research Design and Methodology

5.1 Empirical Model

5.1.1 The Standard Market Model

As the objective of this study is to investigate the market reaction upon the obligation

of CSR implementation prescribed by article 74 of Law no. 40, 2007, the Event Study

Methodology is employed. This methodology allows us to measure the effect of a particular

event on the share return of the firms. To estimate the abnormal return for each day related

to the likelihood of approval or rejection of mandatory CSR implementation law, a standard

market model is used (see Equation 1).

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it} \quad ^{296, \ 297} \tag{1}$$

Equation 1 is applied to estimate the OLS parameters, $\hat{\alpha}_i$ and $\hat{\beta}_i$. The estimation period

used in this study covers 200 days prior to day -1. The abnormal returns surrounding each

event are determined based on Equation 2.

$$AR_{it} = R_{it} - (\hat{\alpha}_i + \hat{\beta}_i R_{mt}) \quad ^{298} \tag{2}$$

In addition to a daily event window, a 3-day event window (-1 to +1) is calculated. It is

assumed that the length of the event window is enough to capture possible expectation or

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[296] R_{it} and R_{mt} are calculated using the following equation: $R_{it} = (P_{it} - P_{it-1})/ P_t$, $R_{mt} = (M_t - M_{t-1}) / Mt$, where P_{it} is the share price of firm i at time t; P_{it-1} the share price of firm i at time $t-1$, M_t is the market index of at time t; M_{t-1} is the market index at time $t-1$

[297] In equation 1, R_{it} is the security return for firm i on day t, R_{mt} is the market return on BEI composite index (IHSG) on day t, α_i and β_i are the Ordinary Least Square (OLS) coefficients and ε_{it} is the disturbance term (residual)

[298] In equation 2, AR is the abnormal return for firm i on day t and $\hat{\alpha}_i$ and $\hat{\beta}_i$ are the OLS estimates of market model parameters for *firm i.*

information leakage before the event, while it is not too long to face problems with confounding events falling within the event window. Cumulative abnormal returns (CAR$_{it}$) for each firm is computed by summing up the firm's abnormal return during the event window (Equation 3).

$$CAR_{it} = \frac{1}{N}\sum_{t=1}^{t=N}\varepsilon_{it} \quad ^{299}$$

(3)

5.1.2 The Cross-Section Regression Model

To investigate the determinant of market reaction upon the obligation of CSR implementation as prescribed by article 74 of Law no. 40, 2007, a cross sectional analysis was employed. The cross sectional regression model was used to examine the relationship between stock price movements represented by abnormal return or cumulative abnormal returns (CAR) with the event window and the range of variables outlined in the hypothesis development section that were predicted to influence price reaction. The models used were as follows:

$$AR_{it} = \alpha_i + \beta_1 LOGTA + \beta_2 ROE + \beta_3 LEV + \beta_4 IND + \varepsilon_{it}$$
$$CAR_3 = \alpha_i + \beta_1 LOGTA + \beta_2 ROE + \beta_3 LEV + \beta_4 IND + \varepsilon_{it}$$

(4)

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[299] In equation 3, CAR_{it} is the cumulative abnormal return for firm *i* in time *t* and *N* is the number of days in the event widow.

In the model above, the dependent variables are the abnormal return *(AR)* and *CAR*, while the independent variables are the firm's specific characteristics such as *LOGTA, ROE, LEV,* and *IND.* All statistical tests use White's (1980) consistent covariance estimator. Table 3 summaries the variable interests in this research, which are described below:

[INSERT TABLE 3 HERE]

a. LOGTA

The second hypothesis was tested with the estimated coefficient of *LOGTA. LOGTA* is the natural logarithm of the total assets of the firm. *LOGTA* is used as a proxy of a firm's size. The coefficient of *LOGTA* is expected to be negative.

b. ROE

The third hypothesis was tested with the estimated coefficient of *ROE. ROE* is a proxy variable for profitability of the firm. It is the state of financial health of the firm. *ROE* is calculated by dividing the firms' earnings after interest and tax by the shareholders equity. The coefficient of *ROE* is expected to be positive.

c. LEV

The fourth hypothesis was tested with the estimated coefficient of *LEV*. *LEV* is the level of leverage of the firm. *LEV* is used as a proxy for firm risk. It is measured by dividing the long term debt and total assets of the firm. The coefficient *LEV* is expected to be positive. d. IND

The fifth hypothesis was tested with the estimated coefficient of *IND*. *IND* is a dummy variable for type of firms in our sample. The dummy variable is coded 1 if the firm is a mining firm and 0 otherwise. The coefficient *IND* is expected to be positive.

6. Empirical Results

6.1 Descriptive Statistics

Table 4 reports descriptive statistics for abnormal returns and selected firm characteristics for the 21 sample firms. Panel A, B, and C show the descriptive statistics for daily abnormal return *(AR)* and 3-day cumulative abnormal returns *(CAR)* surrounding the events. Meanwhile, Panel C describes the descriptive statistics for several firms' characteristics.

[INSERT TABLE 4 HERE]

Panel A in Table 4 shows that the daily *AR* from day -1 to day +1 for July 20 event window (the approval of the PT bills that included mandatory CSR implementation) is positive.

1640

The *AR* also remained positive when the returns were accumulated for 3 days as illustrated in Panel B. We also find that there are more than 50% of the sample experienced positive abnormal return for both daily and cumulative abnormal returns. It suggests that the passage of mandatory CSR implementation law provides value-relevant information to investors, despite no test of significance has been conducted.

Panel C in table 4 depicts the characteristics of firms whose activities are related with the management of natural resources. In terms of size as shown by the *LOGTA* variable, firms in the sample are quite similar in size as indicated by mean (median) of sample *LOGTA* is 15.13 (15.06).. Moreover, Panel B in table 4 illustrates that the sample primarily consists of medium leverage firms as shown by *LEV* variable with mean (median) of 0.43 (0.36), which means that the firms in the sample have approximately 43% long term debt in proportion to its total equity. Furthermore, the sample consists of quite profitable firms as mean (median) of *ROE* variable is 0.21 (0.17).

6.2 Empirical Results

6.2.1 Mandatory CSR Rule and Stock Market Reaction

Table 5 reports the abnormal return and cumulative abnormal return surrounding the event date. As expected, the result shows the mean coefficient for daily *AR* and 3-day *CAR* for the news related to the approval of mandatory CSR implementation law is positive.

[INSERT TABLE 5 HERE]

The parametric test (*t*-test) for July 20 event window shows that *AR* is significant at 15% level and the CAR_3 are significant at 10% level using one tailed test, with *t*-statistic (*p*-value) of 1.25 (0.11) for *AR* and t-statistic (p-value) of 1.64 (0.06) for CAR_3. Hence, the findings lend support on H_1 on which the market reacts positively for the approval of mandatory CSR implementation bill news.

Some explanations on why market reacted positively to the regulation are (1) more CSR programs are conducted and reported by companies in mining and other natural-resource related companies might lower companies' expose risk (Sarre, Doig and Fielder, 2001), (2) some mining companies (high-profile industry) have undergone some CSR projects voluntarily, so they will have no problems when CSR becomes mandatory (3) the additional activities and reporting required by the law will increase the accuracy of market expectation, lower information asymmetry, and lower market surprise (Na'im & Rakhman, 2000).

6.2.2 Determinants of Stock Market Reaction toward Mandatory CSR Rules

Table 6 Panel A and B report the cross sectional regression results of daily Abnormal Return (*AR*) and the 3-day CAR (*CAR$_3$*) on independent variables. The test variables are *LOGTA* which are measured by the natural logarithm of the total assets of the firms. *ROE* represents the profitability of the firms measured by profitability; *LEV* represents riskiness of the firms, measured by the long term debt divided by the total assets; and *IND* represents for type of industry – whether mining firms or non mining firms, which is a dummy variable that is coded as 1 for mining firm and 0 otherwise.

In Panel A table 6, the results of the cross sectional regression with *AR* as dependent variable indicate that all tested variables move as predicted, with different level of significance. The coefficient of *LOGTA* is negative with t-statistic (p-value) of -1.35 (0.09) that is significant at 10% level using one tailed test. The coefficient of *LEV* is positive with t-statistic (p-value) of 2.08 (0.03) and significant at conventional level of 5% level using one tailed test. Meanwhile, the coefficient of *IND* is positive and significant with t-statistic (p-value) of 1.74 (0.05) and significant at 5% level using one tailed test. Finally, the coefficient of variable *ROE* is not significant with t-statistic (p-value) of -0.61 (0.273), suggesting that no profitability effect influence the variation in the abnormal return.

Panel B in table 6 shows the cross sectional regression results of CAR_3 on the firm's characteristics variables. The results suggest of the CAR_3 regression on all tested variables (*LOGTA, LEV,* and *IND)* move in the same manner as the results of regression, where *AR* is the dependent variable, without major different in the significance level except for *LOGTA*. The coefficient of *LOGTA* variable is still negative with higher t-statistic (p-value) of -2.31 (0.019) and significant at 5% level (one-tailed), while the coefficient of variable *LEV* is still positive with t-statistic (p-value) of 2.59 (0.011) and stays significant at 5% level (one tailed). Meanwhile, the coefficient of *IND* is still positive and significant with t-statistic (p-value) of 1.99 (0.033) and significant at 5% level using one tailed test. Finally, the coefficient of *ROE* became positive and insignificant with t-statistic of 0.53. Therefore, both for *AR* and CAR_3 cross sectional model, the results provide support that market used company's size, leverage and type of industry as determinant factors in responding to the mandatory requirement of CSR.

Concerning the empirical result on size, it is important to note that market reacts more positively in smaller firms, suggesting that market expect smaller firms to carry out CSR activities. In general, previous studies show that bigger firms have more CSR practice and disclosure. This result does not oppose that general views, but somewhat complete them. As market expects that bigger firms have already performed and disclosed CSR programs, such

regulation would not affect much. On the other hand, given the low practice and disclosure of

CSR in smaller firms, market view that such regulation will give smaller firms a pressure to

conduct and disclose CSR, which is valued by market.

The similar explanation is given to why market reacts more positively to higher

leverage firms. Previous studies show that higher leverage firms will disclose less CSR

information in their annual report, suggesting that higher leverage firms view CSR as an

expense that should be minimized. The legal requirement of CSR, therefore, will give

pressure to higher leveraged firms to also perform CSR. Hence, this result suggests that

market also expect higher leverage firms to perform CSR.

Regarding the finding on industry type, which is whether firms are in mining industry

or not, is significant as determinant factor. The law explicitly mentions companies in whose

deal with natural resources to perform CSR (e.g. mining firms), while also mentioning the

same obligation to companies whose related to the management of natural resource. The

last category is less clear therefore, market reaction to the companies in last category is less

strong than in first category.

Finally, we find that there is no significant association between market reaction and

profitability, suggesting that market view the consequence of the legal requirement of CSR is

not associated to company's profitability. This is interesting given the fact that mandatory

CSR implementation will incur additional compliance cost. We interpret this result as investor believes that the benefit of CSR practice will outweigh the cost. For example, some studies find that CSR cost may lower claims from community and NGO (Mackey, Mackey and Marney, 2007, Bird et al, 2007)

7. Conclusion

The purpose of this research is to examine the investor reaction to mandatory CSR implementation law in Indonesia as stipulated in article 74 of Law no. 40, 2007 on PT. Specifically, this study examines whether equity investor in a firm that deals with or is related with the management of natural resources view the news related with the obligation to carry out a social and environmental responsibility program, as a good news or otherwise. Furthermore, the hypothesis of this study expects a positive stock market reaction to the event that leads to approval of mandatory CSR implementation law.

Using event study methodology, this study has proven that stock market positively values the approval of mandatory CSR implementation law for firms that deal with or are related to the management of natural resources. It is measured by the positive abnormal return on the day of the announcement and around the day of the related event. It indicates that the equity investors view the mandatory implementation of CSR is a value-enhancing

investment that may result in future cash flow generation. Thereby, value of the shareholders will be maximized.

We also examine the contextual factors that are expected to explain the variation of abnormal returns based on firms' characteristics and contextual factors, such as the size, the profitability, the leverage level, and the firms' engagement in mining industry (or not). It is hypothesized that the abnormal return will be more positive for firms that are profitable, have high leverage, and are engaged in mining industry. It is also hypothesized that the abnormal return will be more positive to smaller firms. Using cross sectional regression analysis, the results of this study provide support for the hypothesis. Overall, this study provides evidence of the stock market reaction upon mandatory CSR implementation law in Indonesia. This study lends support on prior literature that CSR is regarded as future investment instead of additional tax burden.

Despite the evidence provided in this research, there are several limitations that should be taken into consideration. First, even though we have attempted to isolate the event from other confounding events such as earning and dividend announcement before running the model, it is difficult to isolate the CSR obligation news with many other events in the market, which are beyond scope and not necessarily covered in press news. Second, this study employs 21 sample firms considered to be affected by the CSR mandatory rules in

Indonesia, which is quite small, compared to other event study research in developed countries. However, as this study is based on Indonesian market which is considered as a developing capital market, the size of the sample is assumed to be sufficient to draw robust inferences. Nevertheless, study with larger data set would have provided better off perspective about the issue. Finally, relatively low significance of the empirical result may affect our interpretation. Nevertheless, as Indonesian equity market is considered as semi strong efficient market (Setiawan and Hartono, 2003), we believe that the result is assumed to be adequate to draw reasonable inferences.

For the future direction, there is a research opportunity to elaborate study on the economic determinants of the share price reactions toward the mandatory CSR implementation law news. It is also interesting to see the market reaction regarding the establishment of CSR related government regulation (PP).

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TABLE 1:

Sample Selection Procedure

Sample Size

Initial Sample			35 firms
	Less:	Firms with inactive share price movement	1 firms
		Firms with insufficient share price data	9 firms
		Firms with confounding events (pre and post 3 days of announcement day)	4 firms
Total Sample for H_1			21 firms

TABLE 2:

Sample Distribution

Industry	Mining			Basic materials & chemical		Infrastructure, utility and transportation	Agriculture
Sub Industry	Coal	Oil & Gas	Metal	Timber	Pulp & Paper	Energy	Plantation
	3	4	3	4	4	1	2
Total	10			8		1	2

TABLE 3

Summary of the Independent Variables in the Cross Sectional Model

Variables	Predicted Sign	Description
LOGTA	-	A proxy variable for size. It is measured by the natural logarithm of a firm's total asset.
ROE	+	A proxy variable for profitability. It is measured by Return on Equity Ratio (Net Income/Total Shareholder Equity).
LEV	+	A proxy variable for leverage. It is measured by long term debt/total asset.
IND	+	Dummy variable, which indicates the type of firms that require conducting CSR in our sample. It is coded as a 1 for mining firms and 0 otherwise.

Descriptive Statistics for Abnormal Return and CAR of 21 Sample Firm and Firm Characteristic Variables

Day	Mean	Median	SD	Q1	Q3	Min	Max
Panel A: Daily AR for July 20 event window							
N = 21							
-1	0.0310	0.0085	0.0825	-0.0076	0.0381	-0.0315	0.3392
0	0.0217	-0.0018	0.0802	-0.0146	0.0184	-0.0399	0.3394
+1	0.0069	0.0081	0.0217	-0.0103	0.0192	-0.0361	0.0516
Panel B: CAR$_3$ for July 20 event window							
N = 21							
-2 to 0	0.0560	-0.0031	0.1615	-0.0122	0.0591	-0.0424	0.6743
-1 to +1	0.0595	0.0087	0.1665	-0.0131	0.0452	-0.0372	0.7303
0 to +2	0.0325	0.0035	0.0957	-0.0130	0.0768	-0.0890	0.3829
Panel C: Independent Variables							
N = 21							
LOGTA	15.13	15.06	1.48	14.19	16.58	12.19	17.68
ROE	0.14	0.11	0.19	0.01	0.29	-0.13	0.62
LEV	0.26	0.18	0.22	0.04	0.46	0.00	0.62
IND	0.48	0.00	0.51	0.00	1.00	0.00	1.00

Where *LOGTA* is the natural logarithm of total asset of the firms as a proxy for firms' size, *ROE* is the return on equity of the firms as a proxy of profitability, *LEV* is the leverage level of the firms, and IND is the Dummy Variable, which coded as 1 for mining firms and 0 for non-mining firms.

TABLE 5:

Daily and Three-Day Abnormal Returns for 21Firm Sample in Response to 2 Mandatory CSR Implementation Law's Related Events

Event	Date	Event	Expected Sign	One Day Abnormal Return (*t* stat.)	Three-Day Abnormal Returns (*t* stat.)
1.	July 20, 2007	House (DPR) plenary meeting approved the mandatory CSR rule included in PT bill	+	0.022 (1.25)**	0.060 (1.64)*
	N= 21 firms				

All tests of hypotheses are directional (one-tailed)
*, **, indicate significant results at the 10 percent and 15 percent levels, respectively.
Abnormal returns (AR) and Cumulative Abnormal Returns are computed using the following model:

$$AR_{it} = R_{it} - (\hat{\alpha}_i + \hat{\beta}_i R_{mt})$$

$$CAR_{it} = \frac{1}{N} \sum_{t=1}^{t=I} AR_{it}$$

Where:

AR_{it} is the abnormal return for firm i on day t, R_{mt} is the market return on IDX composite index on day *t*,

R_{it} is the security return for firm *i* on day *t*, $\hat{\alpha}_i$ and $\hat{\beta}_i$ are the OLS estimates of market model parameters for firm i, CAR_{it} is the Cumulative Abnormal Return for firm *i*, *I* is the number of days in the event widow, and *N* is the total number of observation

TABLE 6

Cross Sectional Regression Results of AR and CAR$_3$ for 21 Mandatory CSR Implementation Firm on Firm Characteristics

$$AR_{it} = \alpha_i + \beta_1 LOGTA + \beta_2 ROE + \beta_3 LEV + \beta_4 IND + \varepsilon_{it}$$

$$CAR_{it} = \alpha_i + \beta_1 LOGTA + \beta_2 ROE + \beta_3 LEV + \beta_4 IND + \varepsilon_{it}$$

Panel A: Cross Sectional Regression of AR with independent variables   *N=21*

Variables	Parameter	Predicted Sign	Estimates	Standard Error	t-statistic	p-value
Intercept	$\_\sqcap$		0.0918	0.0960	0.9559	0.17825
LOGTA	$\_\sqcap$	-	-0.0089	0.0066	-1.3535	0.0995***
ROE	$\_\sqcap$	+	-0.0243	0.0392	-0.6193	0.2732
LEV	$\_\sqcap$	+	0.0745	0.0358	2.0827	0.0288**
IND	$\_\sqcap$	+	0.0244	0.0140	1.7411	0.05265**

F-Statistic = 3.55
R^2 = 0.5776
Adjusted R^2 = 0.4152

Panel B: Cross Sectional Regression of CAR$_3$ with independent variables   *N=21*

Variables	Parameter	Predicted Sign	Estimates	Standard Error	t-statistic	p-value
Intercept	$\_\sqcap$		0.254024	0.142766	1.779302	0.0493
LOGTA	$\_\sqcap$	-	-0.02269	0.009808	-2.31362	0.01885**
ROE	$\_\sqcap$	+	0.031254	0.058291	0.536175	0.30045
LEV	$\_\sqcap$	+	0.137611	0.053172	2.58803	0.01125**
IND	$\_\sqcap$	+	0.041734	0.020869	1.999846	0.03345**

F-Statistic = 7.81
R^2 = 0.7503
Adjusted R^2 = 0.6542

1) *,**, ***, significant at 1%, 5% and 10% level using one tailed test , respectively.

2) All t-statistic and significance level are based on White (1980) standard errors.

Where *AR* is the abnormal return at day 0, *CAR$_3$* is the 3 days cumulative abnormal return at day -1 to day +1, *LOGTA* is the natural logarithm of total asset of the firms as a proxy for firms' size, *ROE* is the return on equity of the firms as a proxy of profitability, *LEV* is the leverage level of the firms, and *IND* is the Dummy Variable, which coded as 1 for mining firms and 0 for non-mining firms.

REVISITING THE RELATIONSHIP BETWEEN CORPORATE SOCIAL RESPONSIBILITY AND CORPORATE FINANCIAL PERFORMANCE: KOREAN EVIDENCE

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Abstract: In today's global economy, corporate social responsibility (CSR) is a core component of corporate strategy. However, previous literature provides mixed results on the relationship between corporate social responsibility and corporate financial performance (CFP). This study was motivated by the lack of consistent evidence and the relative paucity of researches devoted to this topic under Korean context. We investigate the empirical relation between the level of corporate social responsibility and corporate financial performance using a sample of 433 firm-years between 2006 and 2008. The level of corporate social responsibility was measured using equal-weighted CSR index as well as stakeholder-weighted CSR index suggested by Akpinar et al. (2008). The corporate financial performance was measured using both accounting and market-based measures.

  We have empirically shown that stakeholder-weighted CSR index, which takes into account the degree with which specific stakeholder groups are prioritized, can provide a positive impact upon corporate financial performance whereas equal-weighted CSR might not be able to provide such a thing. Furthermore, after controlling for factors affecting corporate market performance, hedge portfolio returns based on stakeholder-weighted index proved to be significantly positive, suggesting that this type of CSR index could serve as a signal for good management rewarded by the market. These results imply that it is important for firms to realize which aspects of social responsibility are more important to its primary stakeholders who set expectations of, experience and evaluate the firm's actions in order to keep balance between CSR efforts and corporate financial performance.

Key Words: corporate social responsibility, KEJI index, corporate financial performance, instrumental stakeholder theory, redundant resource theory, virtuous cycle

I. Introduction

  The primary goal of business entities has shifted from profit-orientation toward broader socially motivated perspectives over the recent years. In the past, due to the over-emphasis on the short-term profits, business community frequently had to confront criticisms and protests

raised by society at large. Today's corporations are well aware of the importance of keeping balance between social responsibility and the pursuit of financial goals to ensure their long-lasting survival and prosperity. As such, business organizations make efforts to enhance their corporate image as a way to improve long-term profitability. With the heightened recognition of corporate social responsibility (CSR) in society, corporate entities have continuously refined their strategies to meet diverse stakeholders' demands (Kaplan and Norton, 2001; Becker, Huselid and Ulrich, 2001).

In academic circles, extensive research efforts have been undertaken to assess the empirical association between CSR and corporate financial performance (CFP) under diverse geographical context. The results of previous studies, however, are largely indeterminate as to the direction of the association between the two constructs (Margolis and Walsh, 2003; McWilliams, Siegel, and Wright, 2006; Orlitzky, Schmidt, and Rynes, 2003). For example, according to 'good management theory' or 'instrumental stakeholder theory,' companies with superior social performance tend to perform better financially by attracting socially responsible consumers (Bagnoli and Watts, 2003), alleviating the threat of regulation (Lev et al., 2006), improving their reputation with consumers (Orlitzky et al., 2003) and soothing concerns from activists and non-governmental organizations (Baron, 2001).

Conversely, other researchers argued that trying to satisfy the conflicting objectives of different stakeholders might result in inefficient use of resources and eventual deterioration of financial performance and the costs incurred from socially responsible actions may put the firms at an economic disadvantage (Aupperle, Carroll, and Hatfield, 1985; Ullman, 1985). Still others argue that it is not possible to determine the relations between CSR and corporate financial performance since there are so many intervening variables which are hard to control (Fombrun and Shanley, 1990).

In Korea, two recent cases of west coast oil spill accident and a large-scale money laundering committed by one of the Korea's leading conglomerates provided a momentum for heated debates among public arena and a rise of public outcry for changing the old fashioned way of doing business and increased concern for environment and transparency in corporate governance structure. Also, with the Korea's first sustainability report being published in 2003, corporate social responsibility movements, in which labor union, NGOs, and governmental agencies alike participate, emerged as a major social agenda.

Moreover, it has been a recent trend that under the initiatives of institutional investors based in Europe and North America in particular, Socially Responsible Investment (SRI) movement rapidly spread throughout the global financial markets, which aimed at directing investments in socially responsible business that better met the public demands. The Korea Exchange (KRX) and Corporate Governance Service center (CGS) also followed suit by coming to an agreement to develop the Korean version of SRI index. When Korean SRI index is developed

and fully implemented, Korean capital market would become more favorable toward those companies which are perceived to be socially responsible. Foreign investors are expected to play leading roles in boosting such transitions to happen in Korean capital market. Korean companies in need of capital resources, being aware of the trend, would become more likely to exhibit socially responsible attitudes. It is a general understanding that public voices have vastly changed the corporate perception with regard to its involvement in the society. Corporations are expected to undertake an important role in devising corporate strategies designed to better meet the public demands under such circumstances.

  This research is mainly motivated by the mixed results of previous studies in relation to the empirical association between CSR and CFP and the lack of relevant researches in the Korea. Even though many Korean companies have reportedly been engaged in CSR activities across diverse social dimensions, most of previous Korean studies focused on environmental performance (Jang et al., 2009; Choi et al. 2008) or corporate donation activities (Park and Lee, 2002). Empirical research examining the association between multidimensional CSR index and CFP does not exist, due to the lack of adequate information on CSR performance available from publicly accessible data source. As such, to our knowledge, this study is one of the pioneering researches aiming at providing Korean evidence investigating the empirical association between multidimensional CSR and CFP. Specifically, this study seeks to explore the relation between CSR and CFP using KEJI[300] index which is developed by Citizens' Coalition for Economic Justice (CCEJ). CCEJ is one of Korea's leading NGOs, and it developed KEJI for the purpose of evaluating moral management and social responsibility[301] of Korea's leading corporations. The remainder of this paper is organized as follows: Section 2 reviews the previous literature and frames the testable hypotheses; section 3 introduces research design and section 4 provides the empirical results; section 5 summarizes the study's conclusions and limitations.

II. Literature Review and Hypotheses Development

2.1 Literature Review

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[300] KEJI is an abbreviation for Korea Economic Justice Institute, which was established by CCEJ in 1990 for the purpose of conducting researches on socially equitable economic development and economic policies aiming at fair distribution of social wealth. KEJI has published KEJI index for leading Korean companies since 1991 and has awarded selected companies with the highest KEJI score on an annual basis.

[301] The Citizens' Coalition for Economic Justice (CCEJ) is a nationwide citizens' movement based in Korea, working for economic justice, environmental protection and democratic development since 1990.

Establishing a relation between CSR and CFP is important from a social responsibility perspective in that a positive relation tends to validate the credibility of the CSR measurements. Despite all the pleasant voices saying that CSR is a way to improve reputation among customers, employees, and shareholders (Lev, Petrovists, and Radhakrishnan, 2006) or provide legitimacy for their action (Berrone and Gomez-Mejia, 2006), more than thirty years of research in management literature exploring the link between CSR and corporate financial performance only provided mixed results (Margolis and Walsh, 2003; McWilliams, Siegel, and Wright, 2006; Orlitzky, Schmidt, and Rynes, 2003).

One stream of research showed that socially responsible firms would perform better financially by attracting socially responsible consumers (Bagnoli and Watts, 2003), alleviating the threat of regulation (Lev et al., 2006), improving their reputation with consumers (Orlitzky et al., 2003) and soothing concerns from activists and non-governmental organizations (Baron, 2001). On the other hand, there is another stream of research which argues that trying to satisfy conflicting objectives of different stakeholders might result in inefficient use of resources and might even deteriorate the financial performance (Aupperle, Carroll, and Hatfield, 1985) and costs incurred from socially responsible actions may put the firms at an economic disadvantage compared to others (Ullman, 1985). Other than those, there is also a third stream of research which concluded that it is hard to establish any relationship between CSR and CFP since there are so many intervening variables between the two constructs which are hard to control (Fombrun and Shanley, 1990).

Mixed results reported in the previous studies about the relationship between CSR and CFP may be attributed to the various ways corporate financial performance have been operationally defined (Carroll, 1991; Orlitzky et al., 2003), to the lack of appropriate statistical controls (Margolis and Walsh, 2003; Wood and Jones, 1995), and to the 'stakeholder misalignment' problem (Wood and Jones, 1995; Akpinar et al., 2008).

For example, Orlitzky et al. (2003) explore the relation between CSR and CFP using meta-analysis approach. They found that CSR appears to be less correlated with market-based financial performance indicators than accounting-based ones. McGuire et al. (1988) also classified the studies into groups and stated that there is a positive relationship between CSR and accounting based CFP measures, whereas mixed results have been reported in the studies where stock-based CFP measures are used. On the other hand, McWilliams and Siegel (2000) showed that once R&D investment is included in the equation, the positive relationship between CSR and CFP is not significant anymore. They argued that empirical studies about the relationship between CSR and CFP so far have ignored some intervening variables which are acknowledged to be important determinants of financial performance.

As another explanation for such mixed results in previous studies, Wood and Jones (1995) suggested so called 'stakeholder misalignment'–relating stakeholder specific variables to a set

of aggregated stakeholder variables ignoring many differences that exist between different stakeholder groups. They argued that future studies about CSR should take into account that a company should weight which sub-dimensions of social performance is perceived to be important by its stakeholders. In order to cope with such a 'stakeholder misalignment' problem, Lev et al. (2006) classify firms into two groups in accordance with the degree of sensitivity to consumer perceptions. First group consisted of firms belonging to industries where sensitivity to consumer perception is high (such as consumer goods and finance industries) and second group had firms operating in industries where sensitivity to consumer perception is low. They empirically showed that firms producing goods and services purchased by individual consumers are more likely to enhance revenue from having a reputation as a good corporate citizen than firms that produce goods and services for industrial or government use.

More recently, Akpinar et al. (2008) explored the relation between CSR and CFP using a new measure of CSR. They measured CSR with a stakeholder-weighted CSR index which aggregates CSR sub-dimensions indices after taking into account of stakeholder conflicts and their varying importance in different industries. They found a significantly positive association between CSR and CFP using a new stakeholder-weighted CSR index, whereas this link was not significant when equal-weighted CSR index was used as explanatory variable.

Among related Korean researches, Jang et al. (2009) conducted an integrated analysis of the interrelations among environmental performance, financial performance, and environmental disclosure after controlling for endogeneity by using two-stage least squares (2SLS) regression approach. They observed significantly positive relation between environmental performance and financial performance. Choi et al. (2008) applied simultaneous equation approach to explore the relations among corporate environmental disclosure, public initiatives, and firm characteristics. Han et al. (2002) studied the association among corporate philanthropic activities, corporate image, and corporate product image. They provided empirical evidence suggesting that corporate philanthropic activities alleviate direct or indirect cost by improving corporate image and corporate product image. Park and Lee (2002) explored the relation between corporate donation service/environmental protection activities and corporate financial performance of 295 Korean listed manufacturing firms. They found that corporate donation service tended to enhance corporate financial performance, whereas environmental protection aggravated it. These results imply that the effect of CSR varies with CSR sub-dimensions. Bae et al. (2008) explored the economic value of CSR disclosures using the event study methodology. They observed statistically significant abnormal returns on the event day and the day before announcement date and concluded that corporate social investments have positive economic value.

2.2 Hypotheses

  As discussed in literature review section, prior empirical researches on the relation between CSR and CFP have reported mixed results. A variety of causal mechanisms have been proposed in previous studies to account for the inconsistent findings (Orlitzky et al., 2003). In this paper, we particularly focus on the instrumental stakeholder theory and/or the good management theory (Alexander and Bucholz, 1978; Berman et al., 1999; Bowman and Haire, 1975; Margolis and Walsh, 2003; Waddock and Graves, 1997). Instrumental stakeholder theory shares the underlying logic with the good management theory, and they suggest a positive relationship between CSR and CFP. According to these theories, the satisfaction of various stakeholder groups is instrumental for improving organizational financial performance and high corporate social performance bolsters a firm's competitive advantage by weighing and addressing the claims of various constituents in a fair and rational manner (Jones 1995).

  In contrast to the typical primary interest groups in the past who used to focus on financial performance only, there has been a steady increase in the number and kind of stakeholder groups interested in broader corporate social performance (Shapiro, 1992). For example, Graves and Waddock (1994) and Teoh and Shiu (1990) both insisted that institutional investors are favorably inclined toward companies with better social performance when other factors are held constant and independent information on social performance is available. Bowman and Haire (1975) also discussed that stakeholders, stockholders and bondholders may regard CSR as indicating management skill. Alexander and Bucholz (1978) suggested that CSR makes firms an attractive investment since investors evaluate socially aware and concerned management as possessing the requisite skills to run a superior company. Similarly, Spicer (1978) found a positive association between stock price and corporate social performance and insisted that corporate social performance gives information about management competence. Along the same line, Waddock and Graves (1997) found a positive relationship between CSR and the quality of management, where quality of management is measured using the Fortune reputation survey rankings. According to above theories and previous studies, we predict that:

Research Hypothesis: There is a positive association between CSR and CFP.

  We also predict that the association between CSR and CFP would become more evident by taking the sub-dimensions of social responsibility that prioritize major stakeholders into proper perspective.

III. The Empirical Model and Variable Descriptions

3.1 The empirical model

We first propose following econometric model to test research hypothesis:

$$CFP_{it} = \beta_0 + \beta_2 CSRindex_{it} + \sum \beta_{jt} CONTROL_{tjt} + \varepsilon$$

Where, CFP = corporate financial performance
CSRindex = corporate social responsibility index
CONTROL = control variables

Above model is designed to investigate empirical association between CFP and CSR index on cross-sectional basis, particularly when the former is measured using firm level performance measures such as accounting and/or market based indicators. However, cross-sectional regression models are not likely to control intervening variables which are acknowledged to be major determinants of market performance. Thus, we employ Carhart's (1997) four factor market model in addition to the above cross-sectional regression model to see whether market-based financial performance incorporates corporate social performance as well. In order to use Carhart's four factor model, we rank firms according to their CSR index order and construct two portfolios by including firms from the first decile in the top portfolio and those from the tenth decile in the bottom portfolio. We then calculate the differences in the monthly returns between the top and bottom portfolios, which provide hedge portfolio return that can be earned by taking long position in the most socially responsible firms and short position in the least socially responsible counterparts.

We next reclassify the firms belonging to the top and bottom portfolios according to each of the four factors suggested by Carhart (1997) as major determinants of market return to obtain factor mimicking portfolios on a monthly basis. The return differences between the upper and lower halves of respective factor groups are used as dependent variables in the monthly time-series regression models to control for the effects of these factors. Our focus is placed on the intercept term of the four factor market model since it signals whether the CSR based hedge portfolio still earns positive returns after controlling for the four factors included in the model. The model to be estimated is as follows:

$$R_t = \alpha + \beta_1 RMRF_t + \beta_2 SMB_t + \beta_3 HML_t + \beta_4 Momentum_t + \varepsilon$$

Where, R_t = the monthly return difference between top and bottom portfolios
$RMRF_t$ = market risk premium factor mimicking portfolio return
SMB_t = size factor mimicking portfolio return
HML_t = growth factor mimicking portfolio return
$Momentum_t$ = momentum factor mimicking portfolio return

The alpha in this model represents the abnormal return on a zero-investment strategy that buys top portfolio and sells short bottom portfolio. If high CSR drives market-based financial performance, we would expect positive and significant alpha.

3.2 Variable Descriptions

3.2.1 Corporate Financial Performance

To examine the link between CSR and cross-sectional CFP, we use both accounting-based and market-based financial performance measures. As accounting-based financial performance measures, we use return on assets (ROA) and return on equity (ROE). We also choose Tobin's Q as market-based financial performance measures. We measure Tobin's Q using Chung and Pruitt (1994) definition.

- ROA = operating profit / total asset
- ROE = operating profit / owner's capital
- Tobin's Q = (market value of common stock + market value of preferred stock + book value of liabilities) / book value of total asset

3.2.2 Corporate Social Responsibility

A key research design issue in our study is to develop reliable proxies for corporate social responsibility. A few previous studies in Korea including Park and Lee (2002) and Jang et al. (2009) assessed CSR using KEJI index developed by CCEJ in order to evaluate the level of Korean firm's business ethics and social responsibility.[302] One of the distinctive features of

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[302] Korea Economic Justice Institute (KEJI) index is the first comprehensive evaluation scheme for corporate business ethics and social responsibility developed and implemented in Korea, which is comparable to CEP index provided by Council of Economic Priorities in the US, Asahi Foundation index of Japan, and several other corporate ethics indices of European countries.

KEJI index is that it is a product of an independent rating service that focuses particularly on the evaluation of multidimensional corporate social performance. Overall KEJI index consists of seven indices corresponding to seven individual sub-dimensions (soundness, fairness, contribution to society, consumer protection, environmental performance, employee satisfaction, and contribution to economic development).[303] We develop two proxies using these data for each of our sample firm-years from 2006 to 2008.

- ■ Equal-weighted CSR index (EW)

The first proxy for CSR is defined as the simple sum-up scores of seven sub-dimension KEJI indices. This variable was used by Park and Lee (2002) who assessed corporate donation and environmental protection efforts in particular. The first proxy is measured for each firm-year as follows:

$$\text{Equal - weighted CSR index (EW)}_{\text{it}} = \sum_{k=1}^{7} x_{ijk}$$

Where, x_{ikt} = score for firm i, social dimension k, year t

This approach has a drawback in the sense that it assumes all sub-dimensions are equally important to all stakeholders. As discussed in the previous literature of instrumental stakeholder theory, firms need to attend to different stakeholders differently according to the various interests (Wood and Jones, 1995). Depending on the specific areas of social responsibility considered to be important by major stakeholders, the level of CSR is likely to be given different evaluations. Our first proxy for CSR suffers from the lack of a weighting scheme for the different dimensions of CSR, which is remedied by introducing weighted measures of CSR, as proposed by Akpinar et al. (2008).

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[303] More specifically, soundness dimension comprises three items of soundness in stockholder composition, capital expenditures, and financing efforts. Fairness dimension consists of fair trade, economic concentration, transparency, and cooperation with suppliers. Contribution to society considers care for minority groups and donations. Consumer protection comprises protection of consumer sovereignty, product quality and promotion. Environmental protection covers environmental improvement efforts, environmental friendliness, and violation of regulation. Employee satisfaction consists of workplace safety, human resource investment, wage and welfare, labor-management relationship, and gender equality. Contribution to economy relates to R&D efforts and operating performance.

■ Stakeholder-weighted CSR index (SW)

In order to alleviate potential limitation inherent in our first proxy for CSR, the second proxy for CSR is adopted from Akpinar et al. (2008) and is defined as the stakeholder-weighted CSR index. Akpinar et al. (2008) argued that stakeholder-weighted CSR index (SW) is a new CSR measurement which reflects the relative importance of each stakeholder group based on the industry where individual firms belong to. In order to operationalize the second proxy for CSR, we first separate our sample firms into 9 industries according to firm level Korea Standard Industry Code (KSIC). After categorizing the sample firms into 9 industry groups for each year, KEJI index score for each of the seven dimensions is summed up to obtain an aggregate score of social performance for that particular industry-year. Then individual sums for each of the seven dimensions are divided by this overall sum to compute the weights for each of the seven dimensions for every industry-year. After having the weights for every industry-year, we have multiplied the raw KEJI index scores with associated weights to get the new stakeholder-weighted CSR index for every firm-year.

$$Weight_{jkt} = \frac{Average_{jkt}}{\sum_{k=1}^{7} Average_{jkt}}$$

$$Stakeholder - weighted CSR index (SW) = \sum x_{ijkt} \times Weight_{jkt}$$

Where, $Average_{jkt}$ = average score for industry j, for social dimension k, for year t

$Weight_{jkt}$ = weight for industry j, social dimension k, for year t

x_{ijkt} = score for firm i operating in industry j, social dimension k, year t

3.2.3 Control Variables

We use several control variables which is consistently shown to be related to the corporate financial performance. These control variables can broadly be broken down into two groups of firm characteristics and management preferences. Firm characteristics category includes size (Arlow and Gannon, 1982; Shin and Stulz, 2000), risk (McWilliams and Siegel, 2000) and sales growth (De, 1992). To control for the past corporate performance, we also lag sales growth by one year and include it as an additional control. We take logarithm of total assets to

measure firm size and define firm risk using long term debts divided by total asset. We include sales growth for year t using log of sales in year t divided by sales of year t-1. We also include lagged sales growth for year t, which is measured by sales of year t-1 divided by sales of year t-2.

Management preference variable includes R&D expenditures standardized by total assets (McWilliams and Siegel, 2000). Lastly, we also control for industry and year effects by including 8 industry as well as 2 year dummy variables to distinguish 9 industries and 3 years under coverage respectively.

- SIZE = Log (total asset)
- RISK = Long-term debt / total asset
- $Sales_t$ = log (Sales for year t / Sales for year t-1)
- $Sales_{t-1}$ = log (Sales for year t-1 / Sales for year t-2)
- R&D = R&D expenditures / total asset

3.2.4 Variables Used in Carhart's (1997) Four Factor Model

In Carhart's (1997) four factor model, R_t represents the monthly return difference between top and bottom portfolios. $RMRF_t$ is the month t market return minus the risk-free rate and terms SMB_t (small minus big), HML_t (high minus low), and $Momentum_t$ are the month t returns on zero-investment factor-mimicking portfolios designed to capture size, book-to-market, and momentum effects, respectively. Each of the factor-mimicking portfolios are measured by computing the differences in monthly returns between the upper and lower half of the firms rank-ordered according to each of the factors. Four factor market model is estimated using 36 monthly time-series returns.

IV. Empirical Results

4.1 sample selection

The sample of this study is drawn from companies listed on the Korea Exchange (KRX) for which KEJI index is available from KEJI annual brochures. These firms appeared in the list of firms selected by KEJI for scrutiny to determine annual Economic Justice Award winners.[304]

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[304] KEJI is comparable to US CEP, and has awarded Economic Justice Prize based on KEJI index since 1991. The index was first introduced in 1991 and subsequently modified and refined in 1993. Representatives from

KEJI award winner selection procedure consists of both quantitative and qualitative evaluation processes. Quantitative evaluation is applied to Korean companies listed in the KRX on the basis of annual reports, news reports, and other information available from governmental authorities such as National Tax Service, Fair Trade Commission, and KRX, excluding those firms under serious financial trouble.[305] Qualitative evaluation is subsequently conducted by sending questionnaires to the overall top 10% and top 20% industry leaders to collect publicly unavailable information. KEJI discloses the scores of top 200 companies in its brochure with the names of 3 award winners on annual basis.

Consequently, our sample inevitably suffers from sample selection bias as it consists of those companies which scored relatively high in KEJI indexing procedure. To the extent that we rely on KEJI index, however, in order to measure corporate social performance or the level of social responsibilities accomplished by Korean sample firms, this bias is an inevitable cost. To our knowledge, there is no alternative reliable measure of CSR in Korea that can be compared to KEJI in its coverage, and measurement validity. Sample period covers three years from 2006 through 2008. KEJI has published KEJI index since 1991 and the list of selected firms is subject to changes from year to year. KEJI index data is used as a proxy for CRS score and financial data are retrieved from the TS-2000 database. The final sample includes 433 firm-years for the three-year period with adequate financial variables available in TS-2000. We classify sample firms into nine industries using firm level KSIC codes. Industrial distribution of sample firms is shown in Table 1.

[Insert Table 1]

4.2 Descriptive Statistics

Table 2 shows the descriptive statistics for the research variables. Mean (median) values of EW and SW variables are 422.1 (417.8) and 62.57 (61.87), respectively. The standard deviation values of EW and SW variables are relatively small, suggesting that our sample consists of relatively homogeneous group of firms, characterized by superior position based on KEJI index. To examine corporate financial performance we use two accounting-based measures (ROA, ROE) and one market-based measure (Tobin's Q). Averages of ROA and

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academia, journalists, governmental authorities, labor union, NGOs, business community, and general public have interacted with the institute for the betterment of the indexing system.

[305] Criteria for exclusion include the followings: three consecutive years net losses, debt being larger than owners; equity, lower than 1.0 times interest rate, merger target, and newly listed companies whose financial data are unavailable.

ROE are about 7% and 1.6%, respectively. Also, mean of Tobin's Q is 0.79. The firm size measured by the natural logarithm of total assets (SIZE) is 12.81.

[Insert Table 2]

4.3 Correlation and Analysis of variance

Table 3 shows Pearson correlation coefficients between pairs of variables. Based on the significance level of 0.01, EW variable correlates strongly with ROA and ROE only, whereas SW variable correlates with all financial performance variables including Tobin's Q, in positive directions. SIZE is positively correlated to all CSR variables (both EW and SW), which is consistent with a commonly shared view that as firm size increases, corporate responsibility tends to increase as well.

[Insert Table 3]

As discussed in good management theory or instrumental stakeholder theory, we expect that companies with superior corporate social performance should have higher financial performance. Table 4 examines the mean difference among four different groups of CSR for corporate financial performance using a series of one-way ANOVA tests. In panel A, we used equal-weighted CSR index to rank the sample firms, whereas in panel B, we used stakeholder-weighted CSR index to rank them. Table 4 suggests that average of corporate financial performance for firms with high CSR index is well in excess of the corresponding average for firms with low CSR index, the difference among the four types of firms being statistically significant. This result implies that CSR and CFP are positively related.

[Insert Table 4]

4.4 Cross-sectional Regression Analysis

Results of cross-sectional regression analyses, where equal-weighted / stakeholder-weighted CSR indices along with control variables are used to explain variations in CFP are provided in Table 5. Under the heading of model 1, we report results of equal-weighted CSR regressions, whereas under model 2, we report the results from regressions using stakeholder-weighted CSR measures. All regressions use dummy variables to control for industry and year effects, whose results are not shown in the table for brevity. As noted in the table, the models are shown to possess significant explanatory powers based on the conventional significance level.

1667

In model 1, the estimated coefficients for equal-weighted CSR (EW) are positive but statistically insignificant, whereas in model 2, the estimated coefficients for stakeholder-weighted CSR (SW) are positive and statistically significant. In other words, CSR with which stakeholders are prioritized can provide a positive impact upon corporate financial performance whereas CSR without it might not be able to provide such a thing. This result also implies that it is important for firms to realize which aspects of social responsibility are more important to its primary stakeholders. Thus, we adopt research hypothesis proposed in this study only when CSR index reflects the relative importance of specific sub-dimensions evaluated by each stakeholder group.

[Insert Table 5]

4.5 Time-series Four Factor Model

However, above regression analysis is not likely to control intervening variables which are acknowledged to be important determinants of financial performance, especially when market-based financial performance is considered. As a circumvention of this problem, we employ Carhart's (1997) four factor model to assess whether market-based financial performance incorporates positive corporate social performance. Table 6 shows the results of estimating 4 factor model where dependent variable R_t is defined as the monthly return difference between top and bottom CSR portfolios. The alpha coefficient in this model captures the abnormal return on a zero-investment portfolio which buys top decile portfolio and sells short the bottom decile portfolio. We estimated two models using equal-weighted and stakeholder-weighted CSR indices respectively to rank the firm-years to form top and bottom portfolios.

As can be seen in Table 8, alpha is not significantly different from zero (t=1.47; p=0.195) when equal-weighted CSR index is used to rank the sample firms. In contrast, alpha is positive and significant (t=2.30; p=0.031) for the 4 factor model which uses stakeholder-weighted CSR index to rank the sample firms. According to this result, although market risk, size, book-to-market ratio and momentum factors explain considerable amount of differences between the returns of two extreme CSR portfolios, there is a significant 23.9 basis point per month difference (alpha=0.239) remaining unexplained by the style differences between two portfolios. Specifically, this implies that an investor can enjoy approximately 3% (0.239*12=2.868) abnormal returns per year by taking long position in the top 10% CSR portfolio and short position in the bottom 10% counterpart, even when the market risk, firm size, book-to-market ratio, and previous period returns are held comparable between the two. Again, these results suggest that CSR with which stakeholders are prioritized can provide a

1668

positive impact upon market-based corporate financial performance whereas CSR without it might not be able to provide such a thing, which are consistent with previous results of cross-sectional regression analyses.

[Insert Table 6]

4.6 Additional Analysis: 2SLS Approach

Similar to the good management theory, slack resources theory also argues a positive association between CSR and corporate financial performance. However, it proposes a different temporal ordering – namely, that corporate financial performance is directly associated with CSR (Ullmann, 1985; Waddock and Graves 1997). According to this theory, financially healthy firms can afford to engage in more CSR activities, which in turn, are likely to lead to further enhancement of financial performance, particularly when the CSR activities are properly directed toward stakeholder preferences. This necessitates the consideration of endogeneity induced by the bidirectional causal relations between CSR and corporate financial performance. If we want to consider good management theory as well as slack resources theory, we need to estimate the equations in such a way as to show that the two variables of CSR and corporate financial performance are related to each other reciprocally. In this sense, previous results based on single-equation regression models are likely to be biased, as they disregard potential endogeneity problem. We, therefore, conduct additional analysis to test the relation between CSR and corporate financial performance after controlling for endogeneity by employing two-stage least squares (2SLS) regression analysis based on the following simultaneous equation system:

Equation 1: $CSRindex_t = \beta_0 + \beta_1 CFP_t + \beta_2 SIZE_t + \varepsilon$

Equation 2: $CFP_t = \beta_0 + \beta_1 CSRindex_t + \beta_2 SIZE + \beta_3 Sales_{t-1} + \beta_4 Sales_t + \beta_5 RISK_t + \beta_6 R\&D_t + \varepsilon$

[Insert Table 7]

The results of 2SLS regression analysis are presented in Table 7. As can be seen in panel B of the table, only the estimated coefficients for stakeholder-weighted CSR (SW) are positive and statistically significant, which is consistent with the results before controlling for endogeneity as reported in previous section. Panel A also shows that high levels of financial performance provide the slack resources necessary to engage in CSR with which stakeholders

1669

are prioritized. In a nutshell, Table 7 shows that CSR index which takes stakeholders' priority into account can provide a positive impact upon corporate financial performance and high levels of financial performance in turn tend to motivate extended engagements in stakeholder-oriented CSR activities. These results support Waddock and Graves' (1997) argument in favor of a "virtuous cycle" between CSR and CFP.

4.7 Sensitivity Analysis

Finally, we conduct two analyses to check the robustness of the afore-mentioned results. First, for each CSR index presented in Table 4, we replicate the difference test across the four CSR groups using non-parametric Kruskal-Wallis test. This approach obtains qualitatively similar results with the comparable level of significance as those reported in the parametric ANOVA-tests.[306]

We next replicate the regression analyses for investigating the relation between each of CSR sub-dimensions and corporate financial performance and still find a significantly positive association between stakeholder-weighted CSR index and corporate financial performance, except for the two sub-dimensions of contribution for welfare service and consumer protection categories. Partial results of this analysis are provided in Table 8.

[Insert Table 8]

V. Conclusion

Previous empirical evidence provides mixed results on the relationship between CSR and CFP. Our study was motivated by the lack of consistent evidence on the one hand and the relative paucity of researches devoted to this topic under Korean context on the other. We investigated the relationship between CSR and CFP using a sample of Korean firms, for which both CSR related data and the financial data are available from relevant data sources at the same time. Owing to the requirement that credible measures of CSR score should be available, sample frame was restricted to the list of firms subject to annual evaluation and publication by KEJI of CCEJ, a leading Korean NGO with respect to the level of corporate social responsibility.

Major contribution of this study mainly derives from the improvement of research design over many previous studies. In particular, in order to alleviate 'stakeholder misalignment'

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[306] The results are not shown in the table, but are available from authors upon request.

problem discussed in previous literature, we adopted a proxy for CSR, which is defined by taking stakeholders' priority into account to measure CSR score. Furthermore, because general cross-sectional regression model is not likely to control intervening variables which are acknowledged to be important determinants of market-based financial performance, we also employed Carhart's (1997) four factor time-series model. Finally, we conducted additional analysis of the bidirectional relation between CSR and CFP after controlling for potential endogeneity by using two-stage least squares regression analysis based on the simultaneous equation approach.

The results from a series of aforementioned analyses consistently suggest empirical evidence which corroborates that stakeholder-weighted CSR score has a positive impact on accounting-based as well as market-based financial performance measures, whereas this impact disappears when sub-dimensions valued by stakeholders are given equal weights. In other words, only CSR with which stakeholders are prioritized can provide a positive impact upon CFP. This result implies that it is important for firms to realize which aspects of social responsibility are more important to its primary stakeholders. We also show empirically that high levels of CFP tend to increase CSR with which stakeholders are prioritized, consummating a bilateral connection between the two constructs.

However, this study is not without its own limitations which need to be considered in future studies. Most of all, our study did not clearly address the concerns for sample selection bias because our sample is drawn from a population of firms selected by CCEJ, which are featured by larger size, and superior position in terms of financial performance as well as CSR. This limitation is inevitable however, as far as data availability on reliable CSR score in Korea is concerned. Also, although KEJI index is widely cited as presumably the most reliable measure of CSR currently available in Korea, it would not be totally free from rooms for future improvement.[307] Finally, this study was conducted using three most recent years time span which may not be long enough to generalize the results. Because of these limitations and some others, it is necessary to exercise caution to derive meaningful inferences from the results of this study. Future research is expected to extend the coverage of sample firms both by using augmented datasets on corporate social responsibility as well as by experimenting with alternative model specifications.

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[307] Notwithstanding, we do not know of any other alternative option available in Korea. The validity of results of this study is restricted to KEJI sample in that sense. In an untabulated analysis, however, we found that the financial performance of KEJI sample tended to well exceed that of average listed firms in KRX, which partially complements the results of this study.

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<Table 1> Sample distribution by industry

Industry Classification	Frequency	%
Manufacture of food product and beverage	41	9
Manufacture of wearing apparel, Clothing	25	6
Manufacture of Pulp, Paper and Paper Products	20	5
Manufacture of chemicals and chemical products	74	17
Manufacture of Pharmaceuticals, Medicinal Chemicals	73	17
Manufacture of Basic Metal Products	41	9
Manufacture of Machinery and Equipment	42	10
Manufacture of Electronic Components, Computer, Radio, Television and Communication Equipment and Apparatuses	57	13
Manufacture of other product	60	14

			433	100
Total				

<Table 2> Descriptive statistics for variables in the estimation (N=433)

	Mean	S.D	Min	Median	Max
ROA	0.0684	0.0566	0.0133	0.0596	0.348
ROE	0.0166	0.1134	0.021	0.1005	0.5602
Tobin's Q	0.7968	0.3832	0.068	0.582	2.9912
EW	422.103	25.9417	362.74	417.803	469.031
SW	62.5659	3.6102	55.7142	61.8687	76.5505
SIZE	12.8113	1.5206	10.0404	12.4502	18.0994
$Sales_{t-1}$	0.0287	0.0527	-0.1493	0.0294	0.427
$Sales_t$	0.0386	0.0599	-0.1521	0.0365	0.4316
RISK	0.1463	0.1424	0.0018	0.1011	0.6617
R&D	0.0199	0.0232	0.0000	0.0103	0.1568

Note) ROA = operating profit / total asset; ROE = operating profit / owner's capital

Tobin's Q = (market value of common stock + market value of preferred stock + book value

    of liabilities) / book value of total asset

EW = equal-weighted CSR index; SW = stakeholder-weighted CSR index

SIZE = natural log of total assets

$Sales_t$ = log (Sales for t year / Sales for t-1 year)

$Sales_{t-1}$ = log (Sales for t-1 year / Sales for t-2 year)

RISK = Long term debt / total asset; R&D = R&D expenditures / total asset

	ROA	ROE	Tobin's Q	EW	SW	SIZE	$Sales_{t-1}$	$Sales_t$	RISK	R&D
ROA		0.842***	0.170***	0.164***	0.292***	0.085*	0.238***	0.403***	-0.045	0.126***
ROE			0.137***	0.121**	0.239***	0.185***	0.286***	0.476***	-0.146***	0.018
Tobin's Q				0.02	0.104**	0.087*	0.006	0.065	-0.217***	0.137***
EW					0.475***	0.119**	0.046	0.107**	0.001	0.256***
SW						0.397***	0.021	0.090*	0.037	0.334***
SIZE							0.135***	0.222***	0.263***	0.044***
$Sales_{t-1}$								0.231***	0.244***	0.086***
$Sales_t$									0.283***	-0.062
RISK										-0.03
R&D										

Note1) ROA = operating profit / total asset; ROE = operating profit / owner's capital

Tobin's Q = (market value of common stock + market value of preferred stock + book value of liabilities) / book value of total asset

EW = equal-weighted CSR index; SW = stakeholder-weighted CSR index

SIZE = natural log of total assets

$Sales_t$ = log (Sales for t year / Sales for t-1 year)

$Sales_{t-1}$ = log (Sales for t-1 year / Sales for t-2 year)

RISK = Long term debt / total asset; R&D = R&D expenditures / total asset

Note 2) ***, **, * represent significance levels at 1%, 5%, 10%, respectively.

<Table 4> Results of variance analysis (ANOVA test)

Panel A : EW is the classification variable to group the sample firms					
	Bottom 25%	Middle 50%	Top 25%	Award	F-Value
ROA	0.0557	0.066	0.0834	0.109	6.08***
ROE	0.0952	0.1135	0.1418	0.1619	3.57**
Tobin's Q	0.9478	1.2687	1.3282	1.3493	2.39*
Panel B : SW is the classification variable to group the sample firms					
	Bottom 25%	Middle 50%	Top 25%	Award	F-Value
ROA	0.0559	0.0623	0.0912	0.109	10.24***
ROE	0.0903	0.1066	0.1619	0.1619	8.83***
Tobin's Q	0.9798	1.0704	1.3493	1.3841	6.29***

Note 1) EW = equal-weighted CSR index; SW = stakeholder-weighted CSR index
ROA = operating profit / total asset; ROE = operating profit / owner's capital
Tobin's Q = (market value of common stock + market value of preferred stock + book value of liabilities) / book value of total asset
Note 2) ***, **, * represent significance levels at 1%, 5%, 10%, respectively.

<Table 5> Results of regression analysis on corporate financial performance

$$CFP_{k(k=1,2,3)t} = \beta_0 + \beta_1 CSRindex_{j(j=1,2)t} + \beta_2 SIZE + \beta_3 Sales_{t-1}$$

$$+ \beta_4 Sales_t + \beta_5 RISK_t + \beta_6 R\&D_t + \varepsilon$$

	Model 1			Model 2		
Independent Variables	Dependent Variables					
	ROA	ROE	Tobin's Q	ROA	ROE	Tobin's Q
EW	0.097	0.024	-0.785			
	(0.10)	(1.28)	(-0.02)			
SW				0.396***	0.717***	0.538**
				(5.16)	(4.73)	(2.52)
SIZE	0.293*	0.780**	0.041	0.127*	0.283	0.102*
	(1.72)	(2.30)	(0.87)	(1.83)	(0.08)	(1.95)
$Sales_{t-1}$	0.169***	0.334***	0.775	0.201***	0.390***	1.212
	(3.57)	(3.59)	(0.599)	(4.33)	(4.26)	(0.94)
$Sales_t$	0.359***	0.813***	0.851	0.362***	0.820***	0.859
	(8.26)	(9.56)	(0.72)	(8.59)	(9.90)	(1.17)
RISK	-0.087***	-0.844*	-0.372	-0.076***	-0.102**	-0.197
	(-3.60)	(-1.80)	(-0.57)	(-3.25)	(-2.24)	(-0.30)
R&D	0.044	0.334	5.184	0.055	0.501**	3.529
	(0.35)	(1.32)	(1.47)	(0.43)	(2.01)	(1.00)
Adj-R^2	0.277	0.31	0.105	0.319	0.343	0.118
F-statistic	11.361***	13.150***	4.165***	13.654***	15.097***	4.623***

Note1) CFP: k=1: ROA = operating profit / total asset
  k=2: ROE = operating profit / owner's capital
    k=3: Tobin's Q = (market value of common stock + market value of preferred stock + book value of liabilities) / book value of total asset

CSR index: j=1: EW = equal-weighted CSR index
                    j=2: SW = stakeholder-weighted CSR index
SIZE = natural log of total assets
Sales$_t$ = log (Sales for t year / Sales for t-1 year)
Sales$_{t-1}$ = log (Sales for t-1 year / Sales for t-2 year)
RISK = Long term debt / total asset; R&D = R&D expenditures / total asset
Note 2) ***, **, * represent significance levels at 1%, 5%, 10%, respectively.

< Table 6> Results of four factor model

Variables	EW		SW	
	Coef.	t stat.	Coef.	t stat.
α	0.131	1.47	0.239**	2.30
RMRF	-0.373**	-2.62	-0.359***	-3.14
SMB	-0.364***	-2.8	-0.288***	-2.77
HML	-0.179**	2.56	-0.116**	-2.42
Momentum	0.089	0.58	0.015	0.64
Adj-R^2	0.165		0.229	
F-statistic	5.674***		6.127***	

R$_t$ represents the monthly return difference between top and bottom portfolios. *RMRF$_t$* is the month t market return minus the risk-free rate and terms *SMB$_t$* (small minus big), *HML$_t$* (high miuns low), and *Momentum$_t$* are the month t returns on zero-investment factor-mimicking portfolios designed to capture size, book-to-market, and momentum effects, respectively. ***, **, * represent significance levels at 1%, 5%, 10%, respectively.

<Table 7> Result of 2SLS regression

Panel A: Result from Equation 1

Independent Variables	Dependent Variables					
	EW			SW		
ROA	6.764			7.701***		
	(1.32)			(3.14)		
ROE		9.280			4.727*	
		(0.42)			(1.79)	
Tobin's Q			0.312			0.287**
			(0.24)			(2.08)
SIZE	4.470***	4.512***	4.671***	1.191***	1.184***	1.254***
	(3.25)	(3.17)	(3.39)	(7.10)	(6.70)	(7.36)
Adj-R^2	0.123	0.115	0.114	0.311	0.278	0.283
F-statistic	3.432***	3.246***	3.231***	8.822***	7.675***	7.834***

Panel B: Result from Equation 2

Independent Variables	Model 1			Model 2		
	Dependent Variables					
	ROA	ROE	Tobin's Q	ROA	ROE	Tobin's Q
EW	0.156	0.105	0.367			
	(0.91)	(0.36)	(0.89)			
SW				0.155***	0.120*	0.432**
				(3.44)	(1.79)	(2.07)
SIZE	0.127	0.489	0.824	0.246	0.390	0.507
	(0.46)	(1.01)	(1.23)	(0.80)	(0.74)	(0.69)
$Sales_{t-1}$	0.248***	0.518***	2.110*	0.254***	0.522***	2.259***
	(2.62)	(3.17)	(1.93)	(2.70)	(3.19)	(2.26)
$Sales_t$	0.297***	0.586***	0.389*	0.299***	0.588***	0.461***
	(4.25)	(4.84)	(1.98)	(4.30)	(4.87)	(2.94)
RISK	-0.080***	-0.003	-1.934***	-0.077***	-0.017	-1.874***
	(-2.97)	(-0.07)	(-3.02)	(-2.89)	(-0.04)	(-2.98)
R&D	0.267	0.417	1.216	0.243	0.392	0.470
	(1.17)	(1.06)	(0.22)	(1.08)	(0.99)	(0.08)
Adj-R^2	0.292	0.344	0.303	0.295	0.345	0.309
F-statistic	6.092***	7.485***	6.195***	6.180***	7.509***	6.283***

Note1) 2SLS Model

Equation 1) $CSRindex_t = \beta_0 + \beta_1 CFP_t + \beta_2 SIZE_t + \varepsilon$

Equation 2)

$CFP_t = \beta_0 + \beta_1 CSRindex_t + \beta_2 SIZE + \beta_3 Sales_{t-1} + \beta_4 Sales_t + \beta_5 RISK_t + \beta_6 R\&D_t + \varepsilon$ Note 2)

Variables:

ROA = operating profit / total asset; ROE = operating profit / owner's capital

Tobin's Q = (market value of common stock + market value of preferred stock + book value of liabilities) / book value of total asset

EW = equal-weighted CSR index; SW = stakeholder-weighted CSR index

SIZE = natural log of total assets

Sales_t = log (Sales for t year / Sales for t-1 year)

Sales_{t-1} = log (Sales for t-1 year / Sales for t-2 year)

RISK = Long term debt / total asset; R&D = R&D expenditures / total asset

Note 3) ***, **, * represent significance levels at 1%, 5%, 10%, respectively.

<Table 8> Results of regression analyses for investigating the relation between each of CSR sub-dimensions and corporate financial performance
(Dependent variable: Tobin's Q)

	Soundness	Fairness	Welfare	consumer	environment	employee	Economic development
EW	0.05	0.08	0.06	0.19	0.01	0.03	0.13
	(0.58)	(0.89)	(1.37)	(1.52)	(0.12)	(0.47)	(1.18)
SW	0.09^{***}	0.04^{**}	0.01	0.01	0.83^{**}	0.06^{***}	0.15^{***}
	(4.83)	(2.44)	(0.98)	(0.27)	(2.41)	(3.83)	(4.54)

1680

HOW DOES CORPORATE GOVERNANCE AFFECT THE DISCLOSURE PRACTICES OF ENVIRONMENTAL INFORMATION?

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ABSTRACT:

How the difference of governance structure affect the disclosure context and level of the corporate environmental information. It is specially a serious issue in the era of conservation of global environment. it is because that corporate governance and environmental performance are of great significance to corporations' external reporting, and it is believed that there are significant relationships between the two. This study investigates in a comprehensive manner the association between corporate governance and corporate EID, including the influence of an outside director.

Our findings show that outside directors and foreign ownership were both important indicators of environmental information disclosure (EID), and decisive indicators of the level of EID. These results may prove helpful in policy decision making for environmental disclosure and governance of the corporation or the government.

Key words: corporate governance; environmental information; voluntary disclosure

1. Introduction

With the advent of the concept of sustainable development, corporations are compelled to make decisions in a fashion that protects the environment. In accordance with this tendency, numerous stakeholders, including governments, banking institutions, shareholders, investors, suppliers, consumers, employees, community residents, and environmental organizations, are interested in the environmental impacts of business activities and require information regarding environmental performance (Jose & Lee, 2007; Cormier *et al.*, 2005; Burritt & Welch, 1997).   Amid growing public concern for the environment, environmental authorities around the world are beginning to unveil new disclosure requirements, coupled with effective enforcement protocols with regard to environmental issues facing corporations. In South Korea too, the Korean Securities Commission requires corporations to disclose their environmental information in audit report footnotes,[308] but it is not yet the forcible demand. For this reason, corporate environmental information disclosure (EID) is viewed as an opportunity for corporations to visibly demonstrate their commitment to environmental protection, and many corporations have eagerly seized upon this opportunity.

Corporate environmental and social reporting has been the subject of a great deal of academic research for more than two decades. Some of the principal research questions that have been tackled

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[308] In South Korea, the Korean Securities Commission requires corporations to disclose their environmental information in the foot notes to audit reports, combining the Environmental criteria and policy, Safety and accident, Environmental investment, Resources and energy consumption, Byproducts and waste treatment.

thus far or are currently being investigated include: Can environmental and social disclosure practices be linked to attributes of economic performance (Lorraine *et al.*, 2004) or to factors such as size, industry membership, risk, market reaction, external influences, or firm reputation, and do these factors differ among countries (Freedman and Jaggi, 2005; Buhr and Freedman, 2001; Guthrie and Parker, 1990; Gamble, Hsu, Fekrat et al., 1996; Williams, 1999). As previously noted by Cooper (1998), previous studies have indicated inconsistent results owing to disregard of other influencing factors, such as social and cultural systems among various countries. Assuming that a relationship may exist (see Cooper, 1988), the literature has, thus far, really only explored three of these reasons: First, the majority of studies have failed to distinguish between mandatory (meaning that required by law or conditions of practice) and voluntary disclosure; Second, it is increasingly clear that environmental and social disclosure varies among various countries, and these practices originated in different social and cultural systems with different economic growth; Third, owing to the lack of a theoretical basis for environmental and social disclosure, previous investigations could not lead to the arrival of universal validity of outcomes.

We argue that the situational or cultural context of corporate governance significantly affects EID. To prove it, this study focuses on voluntary environmental disclosure and addresses corporate governance structure as a proxy for culture. Cultural factors contribute to systematic differences in situational factors and management characteristics among countries. Contextual differences become even more critical when one attempts to apply extant theories and findings in an international context (Wan and Hoskisson, 2003). Especially, the 1997 financial crisis in South Korea raised questions of corporate legitimacy and governance structures, as well as the relationship between the corporation and social contexts governing the functioning of entities. After the financial crisis, improved governance structures enhanced the transparency of management, and the improved governance structures affected disclosure policy, causing disclosure policy to become more closely associated with appropriate corporate values. Thus, improved governance may affect environmental information disclosure, making such disclosure an integral component of legitimate social responsibility. Third, this study uses legitimacy theory to assess the relationship between corporate governance and EID practices. Gray *et al.* (1995) and Hooghiemstra (2000) previously argued that most insights into environmental and social disclosure emanate from the use of these theoretical lenses, which posit that environmental disclosure is a method by which a firm's continued existence or operations can be justified to its various stakeholders. Additionally, issues of governance, including the legitimacy of corporate power, corporate accountability (Worthy and Neuschel, 1983), and environmental and social disclosure processes can be viewed as strategies targeted at closing a perceived legitimacy gap between management and stakeholders.

This study can make two major contributions to the current body of knowledge. First, we comprehensively investigated the association between corporate governance and corporate EID, including the influence of an outside director. By way of contrast to previous studies, we focused on the

proportion of the ownership structure (Brammer, 2006; Smith, 2005; Cormier *et al.*, 2005; Solomon and Darby, 2005; Rahaman *et al*, 2004). Second, we utilized a novel disclosure index developed to assess the amount and quality of EID in terms of disclosure content and format. The use of a disclosure index is considered to be effective in measuring the transparency of the resultant accounting information. Prior studies measured the quantitative or qualitative aspects of EID disclosure in the annual reports (Brammer and Pavelin, 2006; Cormier *et al*, 2005; Al-Tuwaaijri *et al*., 2004; Hackston and Mile, 1996). With such an approach, problems arise as the result of variations across companies and time in writing style and page and font sizes (Hackston and Mile, 1996).

This study is structured into seven sections. The second section provides a prior review and theoretical framework for this study. The third section discusses related studies and develops our hypotheses. The fourth section outlines the methods employed in this study. The fifth section presents our results. The sixth section presents a discussion and outlines the limitations of the study, and the final section contains our conclusions and recommendations for future research directions.

2. Prior Review and Theoretical Framework

2.1 Prior review

Extant studies of corporate social disclosure have pointed to an increasing tendency over time, both in terms of the number of companies making disclosures and in the extent of information being reported (Harte and Owen, 1991; Deegan and Gordon, 1996). Theories explaining social disclosure patterns include the following: 'social contracting theory', which suggests that companies have a social contract with society to demands of divergent interest groups by legitimizing their actions; 'accountability theory', which also extends social contracting theory and considers companies' compliance with the law; and finally, 'decision usefulness theory', which incorporates users other than investors (Tilt, 1994).

Recent conceptual contributions emphasize the role of voluntary social and environmental disclosures in maintaining the legitimacy of business organizations within a business and investment climate characterized by an increasing interest in social and environmental impacts of economic activity. Encompassing stakeholder theory and legitimacy theory, these sociopolitical approaches are 'set within a framework of assumptions about "political economy"' (Gray *et al.*, 1995a) and cast disclosure as a tool for influencing the perceptions and actions of social and political stakeholders. By establishing its legitimacy, a firm both lessens the regulatory burden that would otherwise constrain the execution of corporate strategy, and keeps away from the market the potential stigma associated with a reputation for environmental recklessness.

Employing a variety of theories, corporate environmental and social reporting has become the subject of a substantial quantity of academic research for more than two decades. The empirical

literature documents the variation across firms in environmental disclosure activism. It has been shown to vary considerably across companies, industries, and time (e.g. Brammer and Pavelin, 2006; Cormier *et al.*, 2005; Solomon and Darby, 2005; Smith *et al.*, 2005; Gao *et al.*, 2005; Al-Tuwaaijri *et al.*, 2004; Rahaman *et al.*, 2004; Newson and Deegan, 2002; Gray *et al.*, 2001; Gray *et al.*, 1995a; Hackston and Milne, 1996; Adams *et al.*, 1998; Patten, 1992). Some of the principal research questions that have been tackled regarding environmental and social disclosure practices are linked to attributes of economic performance or to factors including firm size, profitability, debt ratio, industry membership, visibility, ownership, environmental performance, and what motivates companies to make particular social and environmental disclosures. However, these results have not been consistent. First, the majority of studies have failed to distinguish between mandatory (meaning that required by law or a condition of practice) and voluntary disclosure. Second, it has become increasingly clear that environmental and social disclosure varies among various countries, and such results originate in differences among cultures and systems; and third, investigations into environmental and social disclosure lacking a theoretical basis have largely been disproven.

Therefore, this study focuses on voluntary environmental disclosure and governance structure (a proxy for cultural) via the establishment of legitimacy theory.

----- Insert Table 1 -----

2.2 Theoretical framework: organizational legitimacy

Legitimacy theory is defined as "a generalized perception or assumption that the actions of any entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions" (Suchman, 1995). The corporate or governmental entity, through its top management, seeks congruency between organizational actions and the values of its general and relevant public (Dowling and Pfeffer, 1975; Lindblom, 1994) or its stakeholders. Sethi (1979) argues that if an actual or potential disparity exists between organizational and social values, then organizational legitimacy will be jeopardized, thereby giving rise to a 'legitimacy gap'. In essence, seeking organizational legitimacy is deemed to be important in demonstrating social worthiness (Oliver, 1991), as well as demonstrating that the firm is in tune with societal concerns (Clarke and Gibson-Sweet, 1999) and values to help close any perceived legitimacy gaps.

Actions by corporate management to convince the wider society that the organization is socially responsible are a part of the process of legitimation (Gray *et al*, 1995a). Lindblom (1994) identified four broad legitimation strategies that firms may use to ensure organizational legitimacy: informing stakeholders about intended improvements in performance; seeking to change stakeholders' perceptions of an event; distracting attention away from an issue; and changing external expectations regarding its performance. Such legitimation strategies include gaining, maintaining, or repairing legitimacy (Suchman, 1995). Dowling and Pfeffer (1975) identified three modes of action that firms can undertake to enhance legitimacy: adapt output, goals, and methods of operation to conform to prevailing definitions of legitimacy; attempt via communication to alter the definition of social legitimacy to conform to present practices, output and values; and finally, attempt via communication to become identified with symbols, values or institutions which have a strong basis in social legitimacy. Gray *et al.* (1995a) linked the strategies suggested by Lindblom (1994) and the actions proposed by Dowling and Pfeffer (1975) within the framework of legitimacy theory. The adoption of an appreciation strategy

depends on how management feels it can most effectively close the legitimacy gap. When a legitimacy gap is discovered and recognized by senior management, the company must consider a response. One response is to ignore the gap, presumably on the basis that no adverse consequences will ensue. Alternatively, senior management responds by disclosing information that would be helpful in reducing the legitimacy gap. O'Dwyer (2002) suggests that the objective of companies in disclosing environmental and social information is to influence opinion: either in a defensive way to repair a perceived loss of legitimacy or in a proactive fashion, to be seen as having social conscience and enlightened self-interest.

Legitimacy theory is also the basis for our analysis, because it is difficult to separate the notion of legitimacy from the idea of crisis. The financial crisis in Korea in 1997 raised questions of corporate legitimacy and its governance structures and of the relationship between the corporation and the social context governing the functioning of entities. After enduring the financial crisis, and attempting via communication to become identified with symbols and values, the improved governance structure enhanced the transparency of management and accounting disclosure. As a consequence, it is expected that the improved governance structure may affect the environmental information disclosure to stakeholders, thereby reducing the legitimacy gap for CSR (corporate social responsibility).

3. Hypotheses Development

3.1 Research Framework

This study intended to verify the impact of corporate governance on the disclosure of environmental information, via legitimacy theory. This is important when discussing corporate environmental disclosure practices to consider the values, motives, and choices of those involved in policy formulation decision-making in the organization (Maclagan,1999). Hence, the consideration of corporate governance, including ownership structure and the constituents of boards that exist in an organization, is important because it is top management who oversees information disclosure in annual reports (Gibbins *et al.*, 1990).

The principal variables relevant to corporate governance are outside directors on board, management ownership, institutional ownership, and foreign ownership. The disclosure of environmental information is measured by environmental information disclosure (EID), and particularly by the level of EID. The research framework of this study is as follows:

<Research Framework>

3.2 Korean context

3.2.1 Board composition

The Securities and Exchange Act, Article 2, defines an independent director as a non-executive director who is qualified and elected in accordance with Articles 54-5 or 191-16 of the Securities and Exchange Act (Feb 1998, re-regulated on Nov 2000).

The requirements for listed companies are as follows:
(a) At least one independent director should be on the board, and the total number of independent directors should comprise at least one quarter of the board.
(b) For companies with assets in excess of two trillion Korean won, at least three independent directors should serve on the board, and the total number of independent directors should comprise at least half of the board.

The recommendations of the Korea Corporate Governance Service (KCGS) concerning boards of directors are as follows:
(a) The board of directors shall make the corporation's key management policy decisions and shall supervise the activities of the directors and management.
(b) The directors and the board shall perform their duties faithfully in the best interest of the corporation and its shareholders; they should also live up to their social responsibilities and consider the interests of various stakeholders.
(c) The board shall observe the related statutes and the articles of incorporation when performing its duties, and shall ensure that all members of the corporation also observe them. One of the functions of the board is to oversee the process of information disclosure.

3.3 Hypothesis Development

3.3.1 The proportion of outside directors on a board

The exercise of the environmental information disclosure process should be viewed as a strategy targeted at the closure of a perceived legitimacy gap between management and stakeholders (government, banking institutions, shareholders, investors, suppliers, consumers, employees, community residents and environmental organizations) via outside directors. Outside directors are seen as a check-and-balance mechanism, not only ensuring that companies act in the best interests of owners, but also other stakeholders, and also advising on the public presentation of the company's activities and performance; and providing 'additional windows on the world' (Tricker, 1984). The firms with a higher proportion of outside directors on the board are associated with higher levels of voluntary disclosure (Cheng and Courtenay, 2006). Furthermore, outside directors are likely to respond to concerns about honor and obligations, and would generally be more interested in satisfying the social responsibilities of the firm (Zahra and Stanton, 1998), as this may enhance their reputation and honor in society. They are likely to protect their reputation and to reduce the risk of litigation by providing more societal disclosure. More recently, stakeholders have become interested in the environmental impacts of business activities and information on performance (Jose and Lee, 2007; Cormier et al., 2005; Burritt and Welch, 1997). Environmental information disclosure (EID) is one important method of communicating with stakeholders. Thus, outside directors can put pressure on companies to engage in EID in ensuring congruence between organizational actions and societal values or organizational legitimacy. Therefore, boards dominated by outside directors are expected to have a greater influence on EID, as they are responsible for representing the interests of other stakeholders. Therefore, we hypothesize the following:

> **H1:** There is a positive association between the proportion of outside directors on corporate boards and the disclosure of environmental information.[309]

3.3.2 The percentage of management ownership

Preston *et al*. (1999) underlined the importance of this open communication between management and its stakeholders. Management is not directly accountable to these stakeholders; a firm's long-term existence is dependent upon its ability to legitimize its activities to the broader society. Corporate managers attempt to manage stakeholders' impressions with regard to its environmental performance, exercising environmental information disclosure (Neu *et al.*, 1998). Hence, it can be inferred that an implicit social contract exists between the organization and those who are affected by its operations (Brown and Deegan, 1998). An organization that wishes to continue its operations must ensure that it meets the terms of the social contract, even if these terms evolve over time. Failure by a firm to operate in a manner consistent with community, or public, expectations, may potentially lead to the demise of the firm (Deegan and Rankin, 1996). Relying on the organizational – environmental nexus, environmental disclosure can then be viewed as an attempt by managers to legitimize a firm's activities to its stakeholders (Walden and Schwartz, 1997). In South Korea, amid growing public concern for the environment, numerous stakeholders, including governments, banking sectors, shareholders, investors, suppliers, consumers, employees, community residents and environmental organizations, are increasing the disclosure pressure of environmental activities in the name of social responsibility. Additionally, as the response to investor action, environmental information disclosure affects corporate value (Kim and Youn, 2000). Korean management will tend to increase the practices of EID in order to improve the reputation and justify the firm's approaches to social responsibilities. Hence, we hypothesize as follows:

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[309] Environmental information includes choice of EID(environmental information disclosure) and level of EID

H2: There is a positive association between the proportion of management ownership and the disclosure of environmental information.

3.3.3 The percentage of institutional ownership

The ownership structure of the company may expose legitimacy in corporate responsibility, communicating this to stakeholders. Institutional investors, in positions other than outside shareholders, may find it more difficult to obtain environmental management information than other managers. These investors will, therefore, exert greater pressure for increased disclosure. Rahaman *et al.* (2004), in a case study, reported that social and environmental disclosure efforts have provided explanations for corporate decisions to disclose information in annual reports at a Ghanaian public sector organization, the Volta River Authority (VRA). This study indicated that a major influence on environmental reporting is the constant pressure to comply with the requirements of funding agencies, such as the World Bank. Solomon and Darby (2005) detected an association between institutional ownership and social and ethical environmental disclosure in the UK, using data from interviews. The results of these studies showed that social and environmental disclosure was a response to the pressure of institutional investors. In the South Korean capital market, the 13% rate of institutional investors in 1997 has increased over time. Institutional investors who have increased investment in corporations have exercised CSR (corporate social responsibility), and they require more information to pursue this trend of social and environmental management activities. Therefore, we expect that institutional investors will pressure management to exercise EID. Hence, we hypothesize the following:

H3: A positive association exists between the proportion of institutional investors and the disclosure of environmental information.

3.3.4 The percentage of foreign ownership

Different shareholders may demand different disclosures and this demand is greater when the shareholders are foreigners, owing to the geographical separation between management and owners (Craswell and Taylor, 1992). If a large proportion of a firm's shareholders are foreign, it may prove more difficult for them to obtain information about the firm from alternative sources. These investors will, therefore, impose greater pressure on the corporation to disclose more. Most recently, social responsibility has been concerned with management activities, and environmental information disclosure became important in capital market. Along with it, foreign ownership will impose greater pressure to disclose more environmental information. However, Cormier *et al.* (2005) found a negative association between foreign ownership and environmental disclosure quality in large German companies. Unexpectedly, these results implied differences in ownership structures among countries. In the South Korean capital market, recently, foreign investors have occupied an important position. They tend to be more interested in the environmental impacts of business activities than are local investors, and require a substantial amount of information on environmental performance in order to

consider long-term investment. Therefore, we expect that foreign ownership will pressure management to exercise EID. We hypothesize the following:

H4: *A positive association exists between the proportion of foreign ownership and the disclosure of environmental information.*

4. Methods

4.1 Data and sample selection

Panel A of table 2 presents that the final sample for the analysis includes 656 firm-year observations from the KIS-VALUE database. The sample for this study was obtained from firms listed on the Korean Stock Exchange (KSE) from 2003 to 2006. We collected the environmental information data from the footnoted items of audit reports of the Retrieval and Transfer System (DART), which has archived electronic annual and quarterly reports of all the public companies in Korea since fiscal year 1998. Financial data and equity ownership were hand-collected from the KIS-VALUE database, provided by the Korea Listed Companies Association. The proportion of outside directors on corporate boards was hand-collected from the annual reports of the Retrieval and Transfer System (DART). Exclusion criteria for the sample were firms in the banking and finance industry, with missing information on board composition, with no ownership data for the period 2003 to 2006, and with missing, outlier, or insufficient financial data. Our sample ultimately included a total of 1,977 firm-year observations. The reason that financial industry corporations were excluded is that they are not typically involved in environmental problems; this was verified through prior studies and sampling surveys.

Panel B of table 2 shows the industry/year distribution of sample firms. Panel B of table 2 shows the industry/year distribution of sample firms across different industries, using two-digit Korean SIC codes. The number of disclosure firms differed among industries, but there were no differences in the numbers of disclosure firms in terms of year distribution.

----- Insert Table 2-----

4.2 Model Setting Procedure

This study was conducted in two stages. First, the authors identified those corporations that disclosed their environmental information in financial statements (audit reports) and assessed the impact of corporate governance using form 1. Second, the impact of corporate governance on the level of EID was evaluated for corporations that disclosed environmental information in financial statements (audit reports) using regression analysis form 2. The level of disclosure was assessed via a disclosure index that was developed for this study. The use of a disclosure index to assess the association

1689

between corporate governance and the level of disclosure is considered to be an important approach for evaluating the transparency and disclosure quality of corporate information. Chang *et al.* (2002) previously contended that the transparency of financial information is sustained when corporations provide relevant, timely, and accurate accounting information in an objective and easy-to-understand manner. Thus, the level of disclosure can be used as an indicator of the transparency of corporate information.

$$\text{DENINDI}_{it} = \alpha + \beta1\text{OUTDIR}_{it} + \beta2\text{CON}_{it} + \beta3\,\text{INS}_{it} + \beta4\,\text{FOR}_{it} + \beta5\,\text{LEV}_{it}$$
$$+ \beta6\,\text{ROA}_{it} + \beta7\text{IND}_{it} + \beta8\text{SIZE}_{it} + \varepsilon_{it} \text{-------------------------------------(1)}$$

$$\text{DISLEVEL,it} = \alpha + \beta1\text{OUTDIR}_{it} + \beta2\text{CON}_{it} + \beta3\,\text{INS}_{it} + \beta4\,\text{FOR}_{it} + \beta5\,\text{LEV}_{it}$$
$$+ \beta6\,\text{ROA}_{it} + \beta7\text{IND}_{it} + \beta8\text{SIZE}_{it} + \varepsilon_{it} \text{----------------------------------- (2)}$$

Where:
  Dependent Variables
 Disclosure = degree of various disclosure practices as below
       DENINDI (choice of EID) = a dummy variable with a value of 1 when a firm has EID practices in
                the foot notes of audit reports in Korea and a value of 0 otherwise
       DISLEVEL (level of EID) = score of disclosure on the five categories required for EID (score of
                disclosure index)
  Independent Variables
     OUTDIR = the proportion of outside directors on corporate boards
     CON = the percentage of equity ownership by control
     INS = the percentage of equity ownership by institutional investors
     FOR = the percentage of equity ownership by foreign investors
     LEV = firm leverage measures as the ratio of total liabilities to total assets
     ROA = return on assets as a measure of firms' performance
      IND = a dummy variable with a value of 1 when a firm belong to environmental expropriation
             industries and a value of 0 otherwise
      SIZE = the natural logarithm of total assets

    In both forms, the independent variables are all the same, but in this current study, the dependent variables differ from each other. The primary variables of interest are OUTDIR (the proportion of outside directors on corporate boards), CON (the percentage of equity ownership by control), INS (the percentage of equity ownership by institutional investors), and FOR (the percentage of equity ownership by foreign investors). The control variables are variables that were used in previous studies: LEV(Choi,1998; Brammer and Pavelin, 2006; Cormier *et al.*, 2005), ROA(Cowen *et*

al., 1987; Belkaoui and Karpik, 1989; Hackston and Milne, 1996; Bragdon and Marlin, 1972; Kim, 2000; Brammer and Pavelin, 2006; Jung and Kim, 2004), IND(Cowen *et al.*, 1987; Adams *et al.*, 1998; Freedman and Jaggi, 1988; Choi, 1998; Gao *et al.*, 2005; Newson and Deegan, 2002; Patten, 2002: Brammer and Pavelin, 2006), and SIZE(Cowen *et al.*, 1987; Belkaoui & Karpik, 1989; Adams *et al.*, 1995 and 1998; Hackston & Milne, 1996; Puxty,1986; Cooper,1998; Arnold,1990; Tinker *et al.*,1991; Choi, 1998; Patten, 2002; Jung & Kim, 2004; Cormier *et al.*, 2005; Brammer & Pavelin, 2006) have been found to be effective factors of EID. In connection with IND variable, the classification of the environmental expropriation industry and environmental non-expropriation industry applied the methods used in the Lee's study (2003). Lee's study classified the companies in the chemical, food, fiber, rubber, metal, oil refining, pulp and non-metal manufacturing industries into the environmental expropriation industry, and classified the companies in the sound, correspondence, automobile, transport equipment and building industries into the environmental non-expropriation industry.

The reason for constructing form 1 with a Logit Regression Analysis is to verify the influence of governance characteristics as a potential motive variable between the firms disclosing and non-disclosing the environmental information. In form 2, we intended to verify the effect of governance characteristic on the level of environmental disclosure with the measure of environmental disclosure indices and regression analysis.

4.3 Measurement of Disclosure Practices

In this study, DENINDI (choice of EID) was data disclosed in the foot notes of the audit reports of the DART system. DISLEVEL (level of EID) was the score calculated on the disclosure index. The disclosure index was utilized to determine the disclosure level.

To assess the level of EID, a disclosure index was commonly developed in many investigations and regression analysis was conducted. In addition to the use of a disclosure index, the level of disclosure can be analyzed quantitatively or qualitatively, including the number of pages, lines, words and the degree of quantification on disclosure content (Patten, 1992; Choi, 1998; Cowen et al., 1987; Trotman & Bradly, 1981; Wiseman, 1982), including the degree of category on disclosure content (Brammer and Pavelin, 2006; Cormier *et al.*, 2005; AI-Tuwaijri *et al.*, 2004). This study examined both the quantitative and qualitative aspects of disclosure for corporate environmental information. The disclosure index is more inclusive than those used by other studies, as it is capable of assessing the disclosure format as well. In form 3, the level of disclosure includes the content (DISCON) and format (DISFOR) on environmental information disclosure. With the subdivided form 3, the content includes the quality (DISQUALITY) and quantity (DISQUANTITY) on environmental information disclosure, as in form 4. Additionally, the format includes the degree of subdivision on five items of environmental information disclosure (ITEMDI), and the choice table presentation on numerable information (TABALFOR) as in form 4. The disclosure index was developed to assess the level of EID, and is presented in the Appendix. With regard to disclosure content, the amount and quality of EID was

measured on a 3-point scale. Disclosure format was assessed by determining whether information about each category was clearly presented separately and whether there was a table presenting enumerable data. The presence or absence of the separation of information on each category was indicated as 1 and 0, respectively. The presence or absence of a table presenting quantitative data was indicated as 1 and 0, respectively. The sum-score for each category ranged from 0 to 8 in terms of the five indices of environmental information. The total scores for five categories ranged from 0 to 40.

DISLEVEL = DISCON + DISFOR --- (3)

DISLEVEL = DISQUALITY + DISQUANITY + ITEMDI + TABALFOR ------------ (4)

5. Results

5.1 Descriptive Analysis

<Table 3> presents summary statistics on the choice and level of EID (DENINDI, DISLEVEL) and determinants of voluntary disclosure. The mean of the DENINDI in the total sample was 33.2%. This finding indicated that the firms disclosing environmental information represented 33.2% of the total sample, and these results indicated that firms take a negative attitude toward environmental information disclosure. The mean of the DISLEVEL in the disclosure sample was 6.985. The finding indicated that the firms had a low level of environmental information disclosure for total scores (40). The proportion of outside directors (OUTDIR) in the total sample and disclosure sample were 30.1% and 34.5%, respectively. The proportion of management ownership (CON) in the total sample and disclosure sample were 30.5% and 31.2%, respectively. The proportion of institutional investors (INS) in the total sample and disclosure sample were 8.3% and 8.4%, respectively. The proportion of foreign investors (FOR) in the total sample and disclosure sample were 7.1% and 9.7%, respectively.

----- Insert Table 3 -----

5.2 Correlation analysis

<Table 4> presents the Pearson Correlation Indices for dependent and independent variables among the test variables. In the total sample, the analysis indicated that companies with a higher proportion of outside directors (OUTDIR) were correlated significantly with the choice of EID (DENINDI). These results showed that outside directors pressured management to exercise EID, to present legitimacy regarding corporate social responsibility. Additionally, the analysis indicated that

companies with a higher proportion of foreign investors (FOR) were significantly correlated with the choice of EID(DENINDI). The results indicated that foreign investors pressured management to exercise EID.

In the disclosure sample, the analysis indicated that companies with a higher proportion of foreign investors (FOR) were correlated significantly with the level of EID(DISLEVEL). The results indicated that foreign investors pressured management to disclose transparent information regarding environmental management activities.

----- Insert Table 4 -----

5.3 Disclosure Practices

<Table 5> presents the statistics for the dependent variables on the form 1, 2. The choice of EID (DENINDI) and the level of EID (DISLEVEL) did not differ from year to year in the total sample and disclosure sample, respectively. These findings indicate that the practice of environmental information disclosure was not improved over the four-year study period, and the disclosure level of environmental information was not improved over the four-year study period.

----- Insert Table 5 -----

5.4 Logit Analysis

Our first test assessed the association between the choice of EID and governance. <Table 6> presents the coefficient estimates of form 1 in the total sample. Our primary interest lay in the coefficient estimates on outside directors (β_1), control ownership ($\beta2$), institutional ownership ($\beta3$), and foreign ownership ($\beta4$). In the total sample, the results of the tests of Hypotheses (choice of EID) 1 to 4 are reported in <Table 6 >. In the total sample, the results indicate a significant positive relationship at the 1% between the choice of EID (DENINDI) and the outside director (OUTDIR), in the predicted direction. The results indicated that outside directors pressured management to exercise EID to reduce the environmental risk (world trade, financing, employment, lawsuit, and penalty) in communication with stakeholders, while improving the reputation and justifying the firm's approaches to CSR (corporate social responsibility). Also, the results indicate a significant positive relationship at the 1% between the choice of EID and foreign investors (FOR), in the predicted direction. The results indicated that foreign investors pressured management to exercise EID. Unexpectedly, management ownership and institutional ownership did not choose to engage in EID. For control variables, the results indicate a significant positive relationship at the 1% between the choice of EID and Industry characteristics (IND), in the predicted direction. The results indicated that the activities of firms in industries were associated with particularly visible environmental issues. This result was consistent with the findings of previous studies (Cowen *et al.* 1987; Adams *et al.* 1995, 1998; Freedman and Jaggi, 1988; Choi, 1998; Newson and Deegan, 2002; Patten, 2002; Gao *et al.* 2005). Also, the results indicate a significant

positive relationship at the 1% between the choice of EID and firm size (SIZE), in the predicted direction. This result was consistent with the findings of previous studies(Cowen *et al.*, 1987; Belkaoui & Karpik, 1989; Adams *et al.*, 1995 and 1998; Hackston & Milne, 1996; Puxty,1986; Cooper,1998; Arnold,1990; Tinker *et al.*,1991; Choi, 1998; Patten, 2002; Jung & Kim, 2004, Cormier *et al.*, 2005; Brammer & Pavelin, 2006)

----- Insert Table 6 -----

5.5 Regression Analysis

Our second test assessed the association between the level of EID (DISLEVEL**)** and governance. <Table 7> presents the coefficient estimates of form 2. Our primary interest lay in the coefficient estimates on outside directors (β_1), control ownership ($\beta2$), institutional ownership ($\beta3$) and foreign ownership ($\beta4$). In the disclosure sample, the results of the tests of Hypotheses (level of EID) 1 to 4 are reported in <Table 7>. In the disclosure sample, the results indicate a significant positive relationship at the 5% level between the level of EID (DISLEVEL) and the outside director (OUTDIR), in the predicted direction. The results indicated that the outside director pressured management to disclose transparent environmental information in communication with stakeholders, thus improving the reputation and justifying the firm's approaches to (CSR) corporate social responsibility. Additionally, results indicate a significant positive relationship at the 5% level of EID (DISLEVEL) and foreign investor (FOR), in the predicted direction. The results indicated that foreign investors pressured management to disclose transparent environmental information. Unexpectedly, management ownership and institutional ownership did not affect the level of EID. For control variables, the results indicate a significant negative relationship at the 5% level between the level of EID (DISLEVEL) and firm leverage (LEV). The results indicated the corporations had low EID levels when the debt rate was high. Also, the results indicate a significant positive relationship at the 5% between the level of EID and firm size (SIZE), in the predicted direction.

----- Insert Table 7-----

6. Discussions and limitations

Previous papers that have analyzed the impact factors on environmental information disclosure and level have focused principally on industrial characteristics, audit firm, and corporate characteristics factors such as firm size, profitability, debt ratio, industry membership, risk, visibility, ownership, and environmental performance.

This study demonstrates that the majority of factors such as the proportion of outside directors on corporate boards, and the percentage of equity ownership by foreign investors have positive effects on the choice of environmental information disclosure. This implies that an outside director system has proven to be effective with regard to information disclosure policy, and that the trend of the rising percentage of foreign investors after capital liberalization served to increase the level of environmental information disclosure. Moreover, this also means that environmental information disclosure policy could be influenced by the efforts of governance structure improvement by the firm, as well as regulations and system reforms by the government. Therefore, it is necessary to accelerate the

governance structure improvement policy, and to more aggressively induce foreign investors' investments.

However, it is hard to conclude that our results constitute a universal phenomenon, in that the scope of this research is restricted to just 4 years after the enforcement of governance structure reform system in Korea. It is also restricted to industry characteristics (IND) and corporate financial characteristics (debt ratio, ROA) as influencing variables to the environmental information disclosure in establishing the control variables. Accordingly, our study did not fully consider diverse factors such as organizational characteristics, the effects of pressure groups, and environmental performance variables considered as possible factors in environmental information disclosure.

The environmental performance factor was not included in this research as with the previous researches. It is because that we could not find any consistent result and any unified criteria for the performance measure from the previous studies. In addition, we restricted to information disclosed in corporate financial statements for the measurement of EID and the level of EID. But we can readily observe a tendency toward greater disclosure and greater diversity of environmental information from the websites disclosing sustainability reports. Hence, it is also necessary to extend this study to more diverse corporate reports and website IR reports.

7. **Conclusions**

This study presents an examination of the relationship between corporate governance attributes and EID practices. This was conducted in two stages. First, the authors identified those corporations that disclosed their environmental information in financial statements (audit reports) and assessed the impacts of corporate governance. Our findings indicated a significant positive relationship between the choice of EID and outside directors. The results also indicated that the outside director pressured management to exercise EID in order to reduce the environmental risk in communication with stakeholders, thereby improving the firm's reputation and justifying the firm's approaches to social responsibility. Additionally, the results indicate a significant positive relationship between the choice of EID and foreign investors, in the predicted direction, and the results showed that foreign investors pressured management to exercise more disclosure on environmental information. Secondly, the impact of corporate governance on the level of EID was evaluated for corporations that disclosed environmental information in financial statements (audit reports). The level of EID was measured by a disclosure index that was developed for this study. The results indicated a significant positive relationship between the level of EID and the outside director, and this also indicated that the outside director pressured management to exercise more transparent information disclosure in communication with stakeholders. Also, our findings indicated the existence of a significant and positive relationship between the level of EID and foreign investors, and our results additionally demonstrated that foreign investors pressured management to disclose transparent environmental information to enhance corporate value.

From the findings of this study, we can conclude that improved corporate governance can enhance environmental information disclosure policy, and sometimes the transparency of disclosure. In Korea, through the effects of governance, these findings might prove helpful to the environmental policy decisions of companies and regulators. It seems desirable that similar studies be extended to the dimensions of comparative analysis among countries.

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Table 1. Prior Researches Review

Variables	Researchers	Result
Business size	Cowen et al., 1987; Belkaoui & Karpik, 1989; Adams et al., 1995, 1998; Hackston & Milne, 1996; Puxty, 1986; Cooper, 1998; Arnold, 1990; Tinker et al., 1991; Choi, 1998; Patten, 2002; Jung & Kim, 2004; Cormier et al., 2005; Brammer & Pavelin, 2006	Positive Effect
	Roberts, 1992; Cho & Lee, 2001; Al-Twaijri et al., 2004	Negative, No Effect
Debt ratio	Choi, 1998	Positive Effect
	Cormier et al., 2005; Brammer & Pavelin, 2006	Negative, No Effect
Profitability	Jung & Kim, 2004	Positive Effect
	Cowen et al., 1987; Belkaoui & Karpik, 1989; Hackston & Milne, 1996; Bragdon & Marlin, 1972; Kim, 2000; Brammer & Pavelin, 2006	Negative, No Effect
Characteristic of industrie	Cowen et al., 1987; Adams et al., 1995, 1998; Freedman & Jaggi, 1988; Choi, 1998; Newson & Deegan, 2002; Patten, 2002; Gao et al., 2005	Positive Effect
	Brammer & Pavelin, 2006	Negative, No Effect
Ownership	Rahaman et al., 2004; Smith et al., 2005; Solomon & Darby, 2005	Positive Effect
	Cormier et al., 2005	Negative, No Effect
Environmental performance	Patten, 2002	Positive Effect
	Brammer & Pavelin, 2006	Negative, No Effect
Visibility	Brammer & Pavelin, 2006	Positive Effect
	Cormier et al., 2005	Negative, No Effect

Table 2. Sample Descriptions

Panel A: Sample Selection (2003- 2006)

Selection Criteria	Observations
Firm-year observations with annual reports from 2003 to 2006	2,716

LESS : Financial services institutions
   : Observations not available from the KIS-VALUE database.
   : Missing data(board composition, ownership, finance)
   : Outlier	

Observations for full sample(total sample)	1,977
 LESS: Observations not disclose environmental information	
Observations for disclosure sample	656

Panel B: Distribution of Sample by Year/Industry

	2003		2004		2005		2006		Total	
	Full	DS	Full	DS	Full	DS	Full	DS	Full	DS
Chemical	82	35	82	37	83	38	83	41	330	151
Food	32	11	32	11	33	12	33	13	130	47
Fiber	16	4	16	4	16	4	16	4	64	16
Rubber	13	5	13	5	13	5	13	5	52	20
Metal	31	10	31	11	32	12	32	12	126	45
Oil refinery	5	5	5	5	5	5	5	5	20	20
Pulp	18	8	18	8	18	10	18	10	72	36
Non-metal manufacturing	18	3	18	3	19	3	19	4	74	13
Sound and correspondence	47	8	47	8	47	9	50	11	191	36
Automobile	29	10	29	10	29	11	30	11	117	42
Transport equipment	6	3	6	3	6	3	7	3	25	12
Building	38	10	39	10	38	13	39	14	154	47
Other	156	37	158	43	156	43	152	48	622	171
Total	491	149	494	158	495	168	497	181	1,977	656

* DS: disclosure sample

Table 3 Descriptive Statistics

Panel A: Sample Descriptive Statistics (Total Sample: 1,977)

Variables	Min	Max	Mean	S. d
DENINDI	0	1	.332	.467
OUTDIR	0	.75	.301	.123
CON	0	.96	.305	.190
INS	0	.77	.083	.121
FOR	0	.69	.071	.132
LEV	.04	.98	.509	.216
ROA	-.68	.66	.021	.118
IND	.0	1	.453	.498
SIZE	16.260	24.760	19.281	1.451

Panel B: Sample Descriptive Statistics (Disclosure Sample: 656)

Variables	Min	Max	Mean	S. d
DISLEVEL	2.00	22.00	6.985	.3.812
OUTDIR	0	.66	.345	.127
CON	0	.83	.312	.189
INS	0	.66	.084	.110
FOR	0	.67	.097	.155
LEV	.09	1.20	.509	.207
ROA	-.33	.37	.027	.077
IND	0	1	.551	.497
SIZE	16.260	24.390	19.688	1.574

The variables are defined as follows:

Dependent Variables

- **DENINDI(choice of EID)** = a dummy variable with a value of 1 when a firm has EID practices in the foot notes of audit reports in Korea and a value of 0 otherwise
- **DISLEVEL(level of EID)** = score of disclosure on the five categories required for EID (score of disclosure index)

Explanatory Variables:

- **OUTDIR** = the proportion of outside directors on corporate boards
- **CON** = the percentage of equity ownership by management
- **INS** = the percentage of equity ownership by institutional investors
- **FOR** = the percentage of equity ownership by foreign investors
- **LEV** = firm leverage measures as the ratio of total liabilities to total assets
- **ROA (return on assets)** = return on assets as a measure of firms' performance
- **IND** = a dummy variable with a value of 1 when a firm belong to environmental expropriation industries and a value of 0 otherwise
- **SIZE** = the natural logarithm of total assets

Table 4. Correlation
Total Sample (N: 1,977)

	DENINDI	OUTDIR	CON	INS	FOR	LEV	ROA	IND	SIZE
DENINDI	1								
OUTDIR	.141** (.000)	1							
CON	.027 (.305)	-.093** (.001)	1						
INS	.035 (.182)	.136** (.000)	-.019 (.467)	1					
FOR	.118** (.000)	.271** (.000)	-.045 (.080)	.088** (.001)	1				
LEV	.003 (.893)	.070** (.009)	-.154** (.000)	.060* (.021)	-.175** (.000)	1	.		
ROA	.037 (.152)	-.050 (.061)	.133** (.000)	.101** (.000)	.171** (.000)	-.301** (.000)	1		
IND	.131** (.000)	-.093** (.001)	.185** (.000)	.056* (.032)	.026 (.319)	-.180** (.000)	.113** (.000)	1	
SIZE	.197** (.000)	.324** (.000)	-.045 (.087)	.439** (.000)	.489** (.000)	.161** (.000)	.104** (.000)	-.014 (.588)	1

Disclosure Sample (N: 656)

	DISLEVEL	OUTDIR	CON	INS	FOR	LEV	ROA	IND	SIZE
DISLEVEL	1								
OUTDIR	.071 (.119)	1							
CON	-.069 (.129)	-.232** (.000)	1						
INS	.044 (.338)	.239** (.000)	.010 (.825)	1					
FOR	.113* (.013)	.356** (.000)	-.107* (.019)	.123** (.007)	1				
LEV	-.113* (.014)	.134** (.004)	-.132** (.004)	.025 (.585)	-.259** (.000)	1	.		
ROA	.052 (.259)	-.048 (.306)	.003 (.942)	.023 (.621)	.284** (.000)	-.411** (.000)	1		
IND	.017 (.713)	-.057 (.218)	.264** (.000)	.048 (.295)	.097* (.034)	-.184** (.000)	-.042 (.359)	1	
SIZE	.146**	.349**	-.108*	.416**	.516**	.145**	.077	-.019	1

	(.001)	(.000)	(.019)	(.000)	(.000)	(.002)	(.097)	(.678)

* Significant at the 5 percent level.   ** Significant at the 1 percent level.

Table 5. Disclosure Practices

	Disclosure Practices				
	2003	**2004**	**2005**	**2006**	**total**
DENINDI	.325	.332	.333	.338	.332
DISLEVEL	6.976	6.966	6.979	7.021	6.985

- **DENINDI** was the disclosure rates of environmental information for total sample, and **DISLEVEL** was the average score calculated on the disclosure index for sample of EID.

Table 6. Logit Analysis Results for DENINDI

$DENINDI_{it} = α + β1OUTDIR_{it} + β2CON_{it} + β3\ INS_{it} + β4\ FOR_{it} + β5\ LEV_{it}$
$+ β6\ ROA_{it} + β7IND_{it} + β8SIZE_{it} + ε_{it}$ --(1)

	Choice of EID(N: 1,977)			
	Model 1	**Model 2**	**Model 3**	**Model 4**
	Coef(Wald) P-value	Coef(Wald) P-value	Coef(Wald) P-value	Coef(Wald) P-value
Intercept	-1.817(68.993) .000	-1.246(39.268) .000	-1.247(51.530) .000	-1.467(64.397) .000
OUTDIR	1.901(20.659) .000***			
CON		.045(.022) .882		
INS			.379(.687) .407	
FOR				1.889(20.459) .000***
LEV	.272(.896) .334	.382(1.914) .166	.353(1.628) .202	.554(3.914) .048**
ROA	.711(1.807) .179	.623(1.497) .221	.578(1.279) .258	.341(.440) .507
IND	.606(26.025) .000***	.573(24.442) .000***	.570(24.675) .000***	.591(26.254) .000***
SIZE	.225(23.129) .000***	.231(24.105) .000***	.223(22.998) .000***	.222(22.966) .000***
X²	56.133	27.930	28.590	48.175

	(.000)	(.000)	(.000)	(.000)
P-value				

* Significant at the 10 percent level
** Significant at the 5 percent level
*** Significant at the 1 percent level

Table 7. Regression Analysis Results for DISLEVEL

$DISLEVEL, it = \alpha + \beta 1 OUTDIR_{it} + \beta 2 CON_{it} + \beta 3 INS_{it} + \beta 4 FOR_{it} + \beta 5 LEV_{it}$
$+ \beta 6 ROA_{it} + \beta 7 IND_{it} + \beta 8 SIZE_{it} + \varepsilon_{it}$ ------------------------------------- (2)

	Level of EID(N: 656)			
	Model 1	**Model 2**	**Model 3**	**Model 4**
	Coef(T-Stat) P-value	Coef(T-Stat) P-value	Coef(T-Stat) P-value	Coef(T-Stat) P-value
Intercept	7.247(10.303) .000	8.442(12.417) .000	7.849(12.741) .000	7.613(12.113) .000
OUTDIR	2.323(1.966) .050**			
CON		-1.595(-1.646) .101		
INS		.	1.436(.901) .368	
FOR				2.363(1.971) .049**
LEV	-2.223(-2.325) .021**	-2.154(-2.265) .024**	-2.038(-2.147) .032**	-1.712(-1.790) .074*
ROA	.424(.169) .866	.162(.065) .949	.275(.110) .913	.651(.255) .799
IND	.096(.266) .790	.221(.595) .552	.052(.145) .885	.037(.103) .918
SIZE	.223(2.170) .031**	.240(2.238) .026**	.237(2.206) .028**	.251(2.402) .017**
VIF(Max)	1.2	1.2	1.2	1.2
Adj. R²	.013	.010	.006	.013
F-value	2.505	2.202	1.722	2.489

* Significant at the 10 percent level
** Significant at the 5 percent level
*** Significant at the 1 percent level

Appendix: Disclosure Index

		Score	Environmental criteria and policy	Safety and accident	Environmental investment	Resources and energy consumption	Byproducts and waste treatment
Disclosure Contents	Qualitative Aspects	0	Not disclosed	Not disclosed	Not disclosed	Not disclosed	Not disclosed
		1	Brief information on environmental criteria and policy	Brief information on safety and accident	Brief information on environmental investment	Brief information on resources and energy consumption	Brief information on byproducts and waste
		2	Relatively detailed information on environmental criteria and policy along with quantitative data	Relatively detailed information on safety and accident along with quantitative data	Relatively detailed information on environmental investment along with quantitative data	Relatively detailed information on resources and energy consumption along with quantitative data	Relatively detailed information on byproducts and waste along with quantitative data
		3	Every information on environmental criteria and policy along with quantitative data for yearly comparison	Every information on safety and accident along with quantitative data for yearly comparison	Every information on environmental investment along with quantitative data for yearly comparison	Every information on resources and energy consumption along with quantitative data for yearly comparison	Every information on byproducts and waste along with quantitative data for yearly comparison
	Quantitative Aspects	0	Not disclosed	Not disclosed	Not disclosed	Not disclosed	Not disclosed
		1	1-2 lines	1-2 lines	1-2 lines	1-2 lines	1-2 lines
		2	3-4 lines	3-4 lines	3-4 lines	3-4 lines	3-4 lines
		3	More than 5 lines	More than 5 lines	More than 5 lines	More than 5 lines	More than 5 lines
		0	Information on	Information on	Information on	Information on	Information on

			environmental criteria and policy was not clearly separated from other information	safety and accident was not clearly separated from other information	environmental investment was not clearly separated from other information	resources and energy consumption was not clearly separated from other information	byproducts and waste was not clearly separated from other information
		1	Information on environmental criteria and policy was clearly separated from other information	Information on safety and accident was clearly separated from other information	Information on environmental investment was clearly separated from other information	Information on resources and energy consumption was clearly separated from other information	Information on byproducts and waste was clearly separated from other information
	Tables	**0**	Quantitative data on environmental criteria and policy was not presented in table but available on a yearly basis	Quantitative data safety and accident was not presented in table but available on a yearly basis	Quantitative data on environmental investment was not presented in table but available on a yearly basis	Quantitative data on resources and energy consumption was not presented in table but available on a yearly basis	Quantitative data on byproducts and waste was not presented in table but available on a yearly basis
		1	Quantitative data on environmental criteria and policy was presented in table showing comparison between years	Quantitative data safety and accident was presented in table showing comparison between years	Quantitative data on environmental investment was presented in table showing comparison between years	Quantitative data on resources and energy consumption was presented in table showing comparison between years	Quantitative data on byproducts and waste was presented in table showing comparison between years

5.4 Capital Markets

TUNNELING, OVERLAPPING OWNER, AND INVESTOR PROTECTION: EVIDENCE FROM MERGER AND ACQUISITION IN ASIA[Ψ]

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Abstract

Tunneling is to describe transfer resource out of the firm for benefit of their controlling shareholders. Better legal protection and stronger social norms improve minority shareholders' protection from expropriation. They consequently reduce the private benefits of controlling shareholders (La Porta, 1999). This study aims to investigate tunneling in the context merger and acquisition (M&A) and to examine whether tunneling occurs only in emerging markets with poor law enforcement or whether it also occurs in developed countries.

This study documents that managers are more likely to overpay target in merger and acquisition with high overlapped owner which have stakes in bidder and target firm. That overpayment, a transfer of wealth from owners of bidder's firm to overlapping owners, is a type of tunneling. This study concludes that tunneling occurs in nations not only with low investor protection, but also with high investor protection.

Key words: *tunneling, expropriation, merger & acquisition, investor protection*

INTRODUCTION

Weak corporate law and lack of enforcement mechanism raise fears of expropriation for minority shareholders around the world. These fears seem especially warranted in the presence of business group, a common organizational form in many developed and developing countries. The controlling shareholders have strong incentives to siphon resources out of the firm to increase their wealth (Johnson, et al. 2000). Tunneling is to describe the transfer resource out of the firm for the benefit of their controlling shareholders. Tunneling occurs when someone transfer wealth from company where he has low right of cash flow to another company where he has higher right of cash flow (Johnson, et al. 2000). If prevalent, tunneling may have serious consequences. It can hinder equity market growth and overall financial development. Illicit profit transfers may also reduce the transparency of the entire economy, cloud accounting numbers and complicate any inference about firm health. The purpose of this study is to investigate tunneling in the context of merger and acquisition (M&A) with emphasis on both sides of M&A, bidder and target companies.

We study merger and acquisition because managerial objective and corporate governance mechanisms play important roles when managers acquire other firms. For instance, tunneling could be a major motivation for some acquisition activities of affiliated firms. If a member firm within group has poor financial performance, the owner managers' solution would be to merge it with a more successful firm within the same group. If acquiring bad target maximized the aggregate value of the group despites overpayment, acquisitions are good news for controlling owner, even though they are bad news for the minority shareholders of the bidding firm.

Tunneling can take place in the form of outright theft or fraud or more subtle legal form, such as dilutive share issueances that discriminate minority shareholders and merger between affiliated firm to siphon resources out of the bidder or target. Figure 1 illustrates tunneling. Assumes that company B owns 35% votes (5% direct and 30% indirect votes) and 16 % cash flow right of bidder (through 5% direct ownership and 11% indirect ownership) and 100% vote and cash flow right of target (company K). If the overlap owner (B) through his control of the bidder overpay the target, the overlap owner will gain 100% of the overpayment while only paying 16% for it. Thus, there is transfer wealth from bidder company which overlap owner has low cash flow right to target company which overlap owner have higher cash flow right.

Figure 1 Ownership Structure

Previous study in Merger & Acquisition emphasizes on gain or loss in one side, bidder or target. Thompson et al. (1995) emphasize that ignoring a side to the M&A deal would lead to partial and incomplete understanding of the process and thus the outcomes. In particular, how corporate governance characteristics at both firms have interacted. Furtermore, how corporate governance characteristics affect the aggregate outcomes for the combined firm. To get further understanding of the M&A outcomes as well as the significant factors that affect M&A performance, the corporate governance characteristics of both firms should be considered.

Some studies on M&A have argued that the value creation or destruction in the M&A process should be examined conjointly for the acquiring and target firms (Seth, 1990). Traditionally acquiring and target firms are treated as owned by separate sets of owners that seek to maximize their shareholder wealth. In reality, however, the acquiring and target firms often have particularly same owners.

Figure 2. Overlapping Owner

Such overlapping owners that hold stock in both the acquiring and the target firm are more likely to be interested in the total gain from this transaction (Hansen and Lott, 1996; Easterbrook and Fischel, 1982). Contradictory to 'solo' investors, overlapping investors would be more concerned at maximizing their portfolio value, rather than maximizing the shares value of the acquiring firm.

In the context of mergers and acquisitions when shareholders of the acquiring firm are simultaneously owners of the target firm, they'll be more concerned with the total gain, or portfolio effect from this acquisition. Particularly, they will stand to gain from the transaction as shareholders of the target firm. Inversely, 'solo' shareholders that own stocks in the acquiring firm but not in the target firm will be concerned with the stock returns of the acquiring firm. Such heterogeneity of owners' interests could weaken the monitoring by principals, as well as the impact of such monitoring on agents. Thus, posing less restraint on managerial propensity engages in value destroying acquisitions.

The acquisition of LG Merchant Bank by LG Securities, both belong to the LG Group illustrates tunneling. LG merchant Bank was money-loosing entity. To recapitalize debt-ridden LG Merchant Bank, the LG Group announced that LG Securities, considered to be the most profitable firms in the group, would acquire LG Merchant Bank. The LG official said the merger reflects the LG Group's long term plan to foster the brokerage house into an investment bank and consolidate its financial operations (Korea Herald, 1999). In the other side, brokerage's trade union and minority shareholders of LG Securities opposed the merger, saying that it would impair the value of their share (Korea Herald, 1999). At the time of the merger announcement, the controlling family of the LG group held 18% of the outstanding shares in LG securities and 60% in LG Merchant Bank. This means that if controlling

family had overpaid for the acquisition by \$1, it would have lost 18 cents through LG securities but gained 60 cents through LG Merchant Bank. It would have been better off. However, other shareholders in LG Securities would have lost 82 cents.

Recent financial research has examined the importance of corporate ownership structure (La Porta et al., 1999) and legal origins (La Porta et al., 2000) on the private benefits of control and protection of minority shareholders. Better legal protection and stronger social norms improve minority shareholders' protection from expropriation and consequently reduce the private benefits of controlling shareholders. Johnson et al. (2000) argue that tunneling occurs not only in countries with effective law enforcement but also in contries whose capital market are still emerging. Therefore, the overall impact of differing corporate ownership structures and legal systems on the private benefits of control becomes an empirical question. Therefore, this paper also has additional objectives that examine whether tunneling occurs only in emerging markets with poor law enforcement or whether it also occurs in developed countries.

Bae et al. (2002) find that wealth is tunneled or transferred by subway to the majority shareholders within Korean Chaebol by means of mergers to bail out troubled group members. Bertrand et al. (2002) document tunneling within Indian pyramids. Facio and Stolin (2006) examine the hypothesis that acquisitions undertaken by group-affiliated firms disproportionately benefit the bidder's controlling shareholder. They use a novel methodological approach to compare the announcement-period change in the stock market wealth of the bidder's controlling shareholder with the change in wealth implied by that shareholder's (direct and/or indirect) stake in the bidder. They find no evidence that acquisitions are used to tunnel resources to other companies in the bidder's group to the controlling shareholder's advantage. Claessens et al. (1999) find a positive impact of diversification within industrial groups for their sample of East Asian companies, while in contrast Lins and Servaes (2002) show that diversifying mergers within industrial groups reduces the wealth of minority shareholders in their sample of firms from seven emerging markets.

Our approach to investigate tunneling different from Bertrand at al. (2000), Facio and Stolin (2006) and Bae et al. (2002). Bertrand explore evidence of tunneling by examining how various firm respond external shocks to their accounting measure of performance. Facio and Stolin (2006) and Bae et al. (2002) investigate how investor in the stock market react to acquisition event. Contradictory to formerly tunneling investigation, we distinguish merger where there is an owners of the bidder who

simultaneously owns bidder and target shares (overlapping *owners) and solo owners*, that own stock in the acquiring firm but not in the target. Tunneling occurs when there is tendency to overpay the target in merger with high overlap ownership rather than in merger with low overlap ownership.

While Bertrand et al. (2002) use setting Indian business group, Holmen and Knopf (2004) concern at Swedish merger, Facio and Stolin (2006) study at western European companies and Bae et al (2002) use Korean Business group. All of the studies focus in Asia companies. The Asian countries provide a useful setting for testing tunneling, because we can examine effectiveness of law enforcement to protect minority shareholders. Leuz (2003) has clustered countries based on investor protection variable. The first cluster is characterized by large stock markets, low ownership concentration, extensive outside right, high disclosure and strong legal enforcement. Asia countries that include in the first cluster are Singapore, Hongkong and Malaysia. The second and third cluster show markedly smaller stock markets, higher ownership concentration, weaker investor protection, lower disclosure levels and weaker enforcement. Taiwan and Japan are in the second cluster. The third cluster are Korea, Indonesia and Thailand. Comparison between those clusters will give better understanding, whether tunneling occurs only in country with weak legal enforcement or occurs in country with strong legal enforcement.

We believe that this study is useful to (1) identifies factors that introduce noise in the assessment of managers and allows them to pursue value-destroying deals. In particular, in the context of mergers and acquisitions, investors that have stock interests in both the acquiring and target firm will likely have different perspective on the proposed business combination than 'solo' investors of the acquiring firm. This research focuses on both side of M&A, bidder and target, to give complete understanding of the process and the outcome of M&A, (2) show the new method to measure tunneling that is different from all prior research, (3) explain about tunneling, one form of expropriation minority shareholders.

The remains of this study is organized as follows. First, this study discuss theoritical framework and hypothesis development. Second, this study develops research method and sequentially conjectures some conclusion in next section.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

M&A is a profoundly studied topic, recent meta-analysis by King et al. (2004) concludes that the factors impacting the financial performance of firms engaging in M&A remain largely unexplained.

Some studies on M&A have argued that the value created/destroyed in the M&A process should be examined conjointly for the acquiring and target firms (Seth, 1990). Traditionally acquiring and target firms are treated as owned by separate sets of owners that seek to maximize their shareholder value. In reality, however, the acquiring and target firms often have some of the same owners (see Figure 1). Such overlapping owners, owners that hold stock in both the acquiring and the target firms, are more likely to be interested in the total gain from the transaction (Hansen and Lott, 1996; Easterbrook and Fischel, 1982). Paradoxical to 'solo' investors, overlapping investors would be more concerned at maximizing their portfolio value, rather than maximizing their shares value of the acquiring firm.

The present study undertakes a different approach in identifying heterogeneous ownership interests by looking at two types of owners – (1) overlapping owners that hold stock of both the acquiring and the target firm, and (2) 'solo' (or non-overlapping) owners, that hold stock of the acquiring firm but not of the target. It also corrects for methodological problems, since Graebner & Eisenhardt (2004) emphasize that ignoring a side to the M&A deal would lead to partial and incomplete understanding of the process and thus the outcomes.

Furthermore, the M&A context represents an adversary setting, where the division of the value created or alternatively value destroyed is affected by the relative bargaining owner of the acquiring firm and the target, competitiveness of the market for acquisitions, presence of multiple bidders, and method of payment (Coff, 1993; Seth, 1990). Prior research recognizes that legitimate reasons for M&A activity exist, which could benefit the combined entities through realizing synergies from resources combination, increasing market power, tax savings, R&D, and marketing spillovers, or increasing efficiency (Saxton & Dollinger, 2004; Brush, 1996; Ranft & Lord, 2002; Sirower, 1997; Healy et al., 1992, Morck et al., 1988; Scherer, 1988). Given the adversarial nature of the M&A process, however, such benefits may be captured by the target firm. There is value to be created as a result of the combination, this "*value is being transferred.*" Therefore, looking at the losses and gains at the acquiring firm only may not be very informative about the overall value-creating effect of the deal.

Under the wealth transfer hypothesis, shareholders of the acquiring firm may lose their stocks value if management overpays for the target. In this case, however, the loss at the acquirer will be offset by a gain at the target firm, as the shareholders of the target will enjoy higher returns due to the value transferred or extracted from the bidder's shareholders. Furthermore, if overlapping owners influence the deal as Holland (1998) suggest, they are in a position to ensure that the overall effect from the deal

is beneficial for them. Thus, looking at the aggregate outcomes for both firms represents an important challenge for research. Particularly, M&A is a non-repeatable event–firms have only one shot to get it right, face considerable information asymmetries and cannot remedy their actions without incurring significant expenses (Reuer, 2005).

Weak corporate law and lack of law enforcement mechanism augments expropriations' fears for minority shareholders around the world. These fears seem especially warranted in the presence of business group, a common organizational form in many developed and developing countries. The controlling shareholder will want to tunnel or transfer with subway, profit across firms, moving them from firms where he has low cash flow right to firms where he has high cash flow right. Cash can be transferred in many ways: the firms can give each other high (or low) interest rate loans, manipulate transfer pricing or sell assets to each other at above or bellow market prices, dilutive share issues that discriminate against minority shareholders and merger between affiliated firm to siphon resources out of the bidder or target.

Tunneling comes in two forms. First, a controlling shareholder can simply transfer resources from the firm for his own benefit through self-dealing transactions. Such transactions include outright theft or fraud, which is illegal everywhere (though often goes undetected or unpunished), but also asset sales and contracts such as transfer pricing advantageous to the controlling shareholder, excessive executive compensation, loan guarantees, expropriation of corporate opportunities, and so on. Second, the controlling shareholders can increase their share of the firm without transferring any assets through dilutive share issues, minority freeze-outs, insider trading, creeping acquisitions, or other financial transactions that discriminate against minorities.

Bae et al. (2002) examine whether firms belonging to Korean business groups (chaebols) benefit from acquisitions that they make. In other words, such acquisitions provide a way for controlling shareholders to increase their wealth by increasing the value of other group firms (tunneling). They explore the nature of business groups in emerging markets and examine two competing views of them: the view of Khanna and Palepu (2000) that they add value to their member firms (the "value added view") and the view of Johnson et al. (2000) that they provide the controlling shareholders with an opportunity for wealth transfer from the firm for the benefit of the controlling shareholders (the "tunneling view"). To evaluate these competing views, they examine merger activity. They find that when a chaebol-affiliated firm makes an acquisition, its stock price on average falls. While minority

shareholders of a chaebol-affiliated firm making an acquisition lose, the controlling shareholder of that firm on average benefits because the acquisition enhances the value of other firms in the group. This evidence is consistent with the tunneling hypothesis.

Bertrand et al (2002) Find evidence that owners of business groups are often accused of expropriating minority shareholders by tunneling resources from firms where they have low cash flow rights to firms where they have high cash flow rights. Indian groups appear to tunnel by manipulating non operating components of profits (such as miscellaneous and nonrecurring items). In fact, there is no evidence of tunneling on operating profits alone. Rather, non operating losses and gains seem to be used to offset real profit shocks or transfer cash from other firms. Finally, they examine whether market prices incorporate tunneling. They find that high market-to-book firms are more sensitive to both their own shock and shocks to the other firms in their group. Firms whose *group* has a high market-to-book are also more sensitive to their own shock, but are not significantly more sensitive to the group's shock. This suggests that the stock market at least partly penalizes tunneling activities. They find a significant amount of tunneling, it mostly occurrs via non operating components of profit.

Holmen and Knopf (2004) investigate several companies in Sweden, and find limited evidence of shareholder expropriation. Swedish companies have a high degree of ownership separation from control through pyramids, dualclass shares, and cross-holdings. This increases the potential for private benefits of control. However, Swedish extralegal institutions are consistent with greater shareholder protection. Using data on Swedish mergers they find limited evidence of shareholder expropriation. Apparently, Swedish extralegal institutions offset the drawback of weak corporate governance.

Faccio and Stolin (2006) investigates the presence of unanticipated transfers of value in corporate acquisitions, using a pan-European sample. They broadly define expropriation as the disproportional sharing of gains (or losses) among different shareholders. They find that the wealth average of the controlling families does not increase proportionately to what is implied by the families' investment in the bidder. For the whole sample, the change in value implied by the bidder's abnormal return (i.e., the change in value that should take place in absence of expropriation) has average of -976.3 (thousand US$), while the actual change in wealth experienced by the bidder's controlling shareholder is -1,481.4. This result is clearly inconsistent with expropriation.

Overlapping owners are more concerned with the total gain from the transaction, rather than how the gain is allocated between the acquiring and target firm (Easterbrook and Fischel, 1982). Thus,

managers of acquiring firms with dominant overlapping ownership would be likely less constrained to overpay for the target firms. Although 'solo' owners interests are hurt by such overpayments, overlapping owners could extract benefits from the overpayment in their capacity as target firm's shareholders. Thus, contradictory to 'solo' owners, overlapping owners are likely less critical to management in instances when executives overpay for the target or pursue bigger deals. Under the wealth transfer hypothesis, shareholders of the acquiring firm may lose their stock values if management overpays for the target. However, the loss at the acquirer will be offset by a gain at the target firm, as the shareholders of the target will enjoy higher returns due to the value transferred or extracted from the bidder's shareholders. Furthermore, if overlapping owners influence the deal as Holland (1998) suggested, they are in a position to ensure that the overall effect from the deal is beneficial for them. Overpayment to target serves as transfer of wealth from other bidder shareholders to the overlap owner.

Hypothesis 1: Overlapping ownership will be positively related to the announced value of the deal.

Ignoring one side of M&A deal would lead to partial and incomplete understanding of the process and the outcome, we propose Hypothesis 2-3 that corporate governance on both firms (target and bidder) will reduce tunneling.

Hypothesis 2: Corporate governance at bidder's firm has negative effect on the announced value of deal, especially corporate governance at bidder's firm reduce overpayment.

Hypothesis 3: Corporate governance at target's firm has negative effect on the announced value of deal, especially corporate governance at target's firm reduce overpayment.

Recent research shows that legal protection of minority shareholders and creditors is an empirically significant determinant of financial development across countries (La Porta et al., 1997). Company law in civil-law countries is less protective of minority shareholders than that in common-law countries (La Porta et al., 1998). Courts in civil-law countries may tolerate more tunneling than courts in common law countries because of: (i) a narrower application of the duty of loyalty largely to transactions with no business purpose, (ii) a higher standard proof in conflict-of-interest situations, (iii)

a greater responsiveness to stakeholder interests, and (iv) a greater reliance on statutes rather than fairness when regulating self dealing transactions. In this paper, we focus specifically on the legal treatment of minority shareholders in different legal systems with respect to tunneling.

Hypothesis 4: Investor protection has negative relationship with the announced value of deal

Hypothesis 5: Investor protection has moderating effect on the relationship between overlapping owner and the announced value of deal.

RESEARCH METHOD

DATA SOURCE AND SAMPLE SELECTION

This research collects all merger and acquisitions from Zephyr database for the period 1999-2007. In addition, this study also documents ownership structure and financial statement obtain from osiris database.

HYPOTHESIS EXAMINATION

Hipothesis 1 – 5 would be examined by the following regression.

$$DV = \beta_1 + \beta_2 TotOv + \beta_3 CGbidder + \beta_4 CGtarget + \beta_5 IPbidder + \beta_6 IPtarget + \beta_7 control\ variables + \varepsilon$$

DV   : Deal value

TotOv   : Total Overlap Owner

CGbidder : Corporate Governance bidder's company

CGtarget : Corporate Governance target's company

IPbidder : Investor Protection bidder

IPtarget : Investor Protection target

VARIABLES DESCRIPTION

DEPENDENT VARIABLE:

1. Deal value

Deal value is the sum of payment from bidder for target company relative to firm value of target. We measure firm value with book value of target firm preceding of the deal. Book values are meaured by total assets.

INDEPENDENT VARIABLES:

1. Overlapping owner's percentage in the acquiring-target firm

In order to calculate a joint overlapping measure for both firms, percentages owned by overlapping owners in acquiring (target) firm were combined then scaled with the market value of acquiring (target) firm.

$$Jo\mathrm{int}\_Overlap = \frac{TB*MVB + TT*MVT}{MVB + MVT}$$

TB:	the percentage owned by overlapping owners in the acquiring firm was calculated as the sum of ownership stakes at acquiring firm of all owners that held stock at both the acquiring and the target preceding the announcement of the deal
MVB	market value of bidder company
TT	the percentage owned by overlapping owners in the target firms was calculated as the sum of ownership stakes at target firm of all owners that held stock at both the bidder firm and the target firm preceding announcement of the deal.
MVT	market value of target firm

2. Corporate Governance

Corporate governance was measured by indicator of firms' independency to signify the company degree of independence with regard to its shareholder. Brickley et al (1988) suggest that only owners that are independent from managerial influence will adequately monitor and likely to oppose the self-serving action of managers. Based on BvD's database independence indicators are noted as A, B, and C with further qualification as follows.

Indicator A	Company with no recorded shareholder with an ownership over 24.99% (either direct or total).This is further qualified as A+, A, or A-
Indicator B	Company with one or more shareholders with an ownership percentage over 24.99% and no recorded shareholder with an ownership percentage (direct or total) over 49.99%. The further qualifications of B+, B and B- are then assigned.
Indicator C	Company with a recorded shareholder with an ownership (direct or indirect) over 49.99%. The C indicator is also given to a company that has an ultimate owner identification.

The greater level of independency is the less power the overlap owner has to influence the deal to ensure that the overall effect from the deal is beneficial for them. The greater level of independency will reduce tunneling or overpayment to target.

3. Investor Protection

Based on all items below, countries were clustered into three levels of investor protections (Leuz, 2003). The parameter to measure level of investor protections are:

a. Outside Investor Right. Mechanisms in corporate law protect the rights of outside (minority) investors and attenuate agency problems between insider (controlling) owners and outside/minority owners. The outside investor rights variable is the anti-director rights index created by La Porta et al (1998). It is an aggregate measure of minority shareholder rights and ranges from zero to five.

b. Disclosure requirements. The disclosure index (DIS_REQ) measures the extent of disclosure requirement of information for securities issued by firms through a prospectus including information on the compensation of executives, shareholder ownership structure, inside ownership, unusual contracts, and related-party transactions.

c. Importance of equity market. The Importance of Equity Market is measured by the mean rank across three variables used in La Porta et al. (1998): (1) the ratio of the aggregate stock market capitalization held by minorities to gross national product, (2) the number of listed domestic firms relative to the population, and (3) the number of IPOs relative to the population. Each variable is ranked in such way, so that the higher scores indicate a greater importance of the stock market.

d. Legal enforcement. Legal enforcement is measured as the mean score across three legal variables used in La Porta et al (1998): (1) the efficiency of the judicial system, (2) an assessment of rule of law and (3) corruption index. All three variables were scaled from zero to ten.

CONTROL VARIABLES:

To control for variation in deal value, the regression model include control variables:

1. Performance

Firm performance was measured as return on assets (ROA) and Return on Shareholders (ROS), consistent with prior research (Haunschild, 1993; Sanders, 2001). *The greater performance value the greater deal value*

DATA ANALYSIS AND FINDINGS

Descriptive Statistics

This study obtains data from ZEPHYR and OSIRIS database. ZEPHYR database contains merger and acquisition data. OSIRIS database contains financial data from annual reports of publicly traded around the world. The final sample consists of 104 M&A deal with overlapping owner, across seven countries for fiscal years 2005-2007. Table 1 present descriptive statistics, including the means and standard deviation for all study variables. Mean of deal value relative to book value is 106.023 and its standard deviation is 258.427. Mean of deal value relative to book value in high overlap owners is 171.443, while in the low overlap owner is 49.94. It could be inferred that mean of deal value in high overlap owner is higher rather than in low overlap owner. It suggest that in high overlap owner's deal, the probability of overpayment to the target is higher than in low overlap owner's deal. More description of table 1. While, the others could be inferred with the same methods.

Table 1 Descriptive Statistics

Variables	Mean	Min.	Max.	Std. Dev.
DealValue/ Book Value	106.023	0.07	2309.64	258.427
Total Overlap Owner	7.0076	0.01	92.97	13.953
High Total Overlap Owner	171.4433	0.10	2309.6	358.59
Low Total Overlap Owner	49.94	0.07	417.05	90.82
CG Target	2.4554	0.00	5.00	2.095
CG Bidder	2.693	0.00	5.00	2.148
IP Target	2.177	1.00	3.00	2.00
IP Bidder	2.168	1.00	3.00	0.59
LnNet Income	10.28	6.80	14.76	1.813
Return on Shareholder	9.087	-232.90	51.61	38.38
Return on Asset	4.828	-52.95	28.65	10.88

Table 2 present institutional characteristics of each country based on Francis and Wang (2006). Malaysia, Hongkong and Singapore are in the first cluster characterized by large stock market, low ownership concentration, extensive outsider rights, high disclosure and strong legal enforcement. The

second and the third cluster are Japan,Taiwan, Korea, Indonesia. The second and the third cluster show markedly smaller stock market, higher ownership concentration, weaker investor protection, lower disclosure level, and weaker legal enforcement.

Table 2 Institutional characteristics of the sample by country

Countries	Outside Investor Right	Legal enforcement	Important Equity Market	disclosure Index	cluster (1:high, 3 low)
Korea	2	5.6	11.7	62	3
Japan	4	9.2	16.8	65	2
Malaysia	4	7.7	25.3	76	1
Taiwan	3	7.4	13.3	65	2
Indonesia	2	2.9	4.7	n.a.	3
Hongkong	5	8.9	28.8	69	1
Singapore	4	8.9	28.8	78	1

Hypothesis Examination

First of all, this study examines all hipothesis using equation model #. The results are presented in table 3. Tunneling is measured by overpayment for target firms. Consistent with hypothesis 1, overlapping ownership is positively related to the announced value of the deal. The announced value of the deal is positively affected by the number of overlapping owner (b =41,071; p<0,001). In the presence of heterogeneous ownership interests, managers are more likely to destroy deal value or overpay the target firm. Heterogeneity of owner's interest could weaken the monitoring by principals, thus pose less restraint on managerial propensity to engage in overpayment and approval of value destroying deals. Therefore, in the presence of heterogeneous ownership interests managers are more likely to engage in bigger M&A deals and more inclined to overpay the target. Therefore, the results are consistent with hypothesis 1.

Table 3 Test Results of Tunelling

	Coeeficient (t-value)
Constant	264.26
	(1.358)
Total Overlap Owner	41.071***
	(9.492)
Corporate Governance Target	43.945
	(0.890)
Corporate Governance Bidder	-123.857**
	(-2.199)

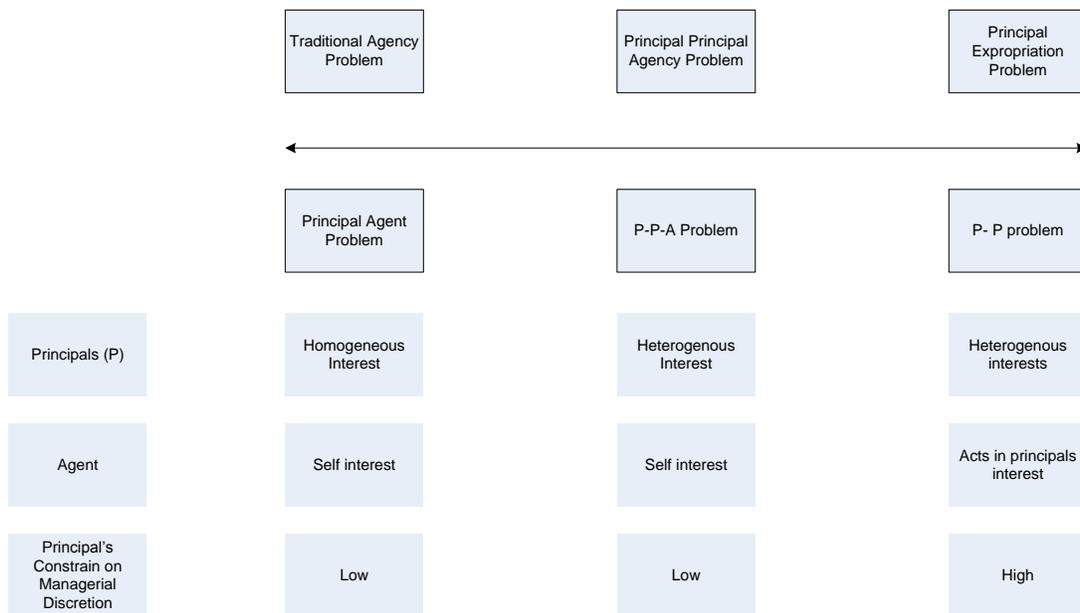|		
Investor Protection Target		-121.807
		(-1.125)
Investor Protection Bidder		63.357
		(.542)
Return on Shareholder		.021
		(.005)
Return on Asset		-2.451
		(-.244)
Net Income		-12.547
		(-.746)

Remarks: ***, **, * are significant at level 1%, 5%, and 10%. This table reports the estimated parameters in following regression: Deal = $\beta_1 + \beta_2$TotOverlap + β_3CG Bidder + β_4CG target + β_5Investor Protection Bidder + β_6 Investor Protection Target + $\beta_7$control variables + ε

The main effect of bidder's corporate governance are negative significant related to deal value with the coeficient of -123.857 and its t-value of -2.199. It means that the better bidder's corporate governance is, the lower overpayment to the target is. Hypothesis 2 is supported. Corporate governance of target's firm is not significant related to deal value. Hypothesis 3 is not supported. The result inferred that corporate governance at bidder company reduce tunneling more effectively, compared to corporate governance at target firm.

The main effect of investor protection variable both in countries of target's firm and bidder's firm are not significant. Hypotesis 4 is not supported. Since the main effects of investor protection variables were insignificant, we conduct additional test with splitted sample analysis. Investors protections of target was splitted. Based on level of investor protection, the sample was split on high and low investor protection and the analysis was performed separately for both sample using equation #. When applied to bidder in high investor protection countries, overlapping owners is significantly and positively related to deal value with coefficient of 10.005, and t-value probability less than 0.001. Furthermore, corporate governance of bidder company is remain negatively and significantly related to deal value (b=-38.203, p<0.005). IP has moderating effect, support H5. Similarly, when applied to bidder in low investor protection, overlapping owners is still significantly and positively related to deal value (b=58.609, p<0.10). This evidence supports Johnson et al (2000) that tunneling occurs not only in countries with effective law enforcement but also in countries whose capital market is emerging.

Table 4 Split Sample Analysis Based on Level of Investor Protection

	High Investor Protection	Low Investor Protection
Constant	147.63	-45.9
	(3.791)	(-0.564)
Total Overlap Owner	10.005*	58.609*

	(5.396)	(4.610)
Corporate Governance Bidder	-38.209*	-319.161
	(-3.147)	(-1.769)
Return on Shareholder	-0.252	32.255
	(-0.222)	(1.034)
Return on Asset	-.010	-52.608
	(-.005)	(-0.664)
Net Income	-8.578*	101.850
	(-2.107)	(1.043)

Remarks: ***, **, * are significants at level of 1%, 5%, and 10%. This table reports the estimated parameters in following regression: Deal = β_1 + β_2 TotOverlap + β_3 CG Bidder + β_4 CG target + β_5 Investor Protection Bidder + β_6 Investor Protection Target + β_7 control variables + ε

Sensitivity Test: Low vs High Overlap Ownership

Based on median values of overlapping owners, the sample was splitted into high and low overlap ownership and the analysis was performed for both samples. The median values of overlapping owners was 2.6. The high overlap owners category consists of deal M&A that had total overlap owners between 3.00%–92.97%, while the low overlap owners category consists of total overlap owners between 0.01% - 2.00%.

Table 5 Split Sample Analysis Based on Level of Total Overlap Owners

	High Overlap Owners	Low Overlap Owners
Constant	-539,214	272,805
	(-,916)	(4,026)
Total Overlap Owner	70,089*	-24,295
	(10,123)	(-1,604)
Corporate Governance Bidder	-71,352	-7,413
	(-,639)	(-,390)
Corporate Governance Target	29,807	-5,729
	(,353)	(-,481)
IP Bidder	-385,255	-46,887
	(-1,536)	(-1,116)
IP Target	-1,613	-12,543
	(-,005)	(-,403)
Return on Shareholder	-7,077	1,365
	(-,582)	(1,109)
Return on Asset	-5,526	-1,375
	(-,202)	(-,633)
Net Income	54,236	16,160
	(,982)	(-3,516)

Remarks: ***, **, * are significants at level of 1%, 5%, and 10%. This table reports the estimated parameters in following regression: Deal = β_1 + β_2TotOverlap + β_3CG Bidder + β_4CG target + β_5Investor Protection Bidder + β_6 Investor Protection Target + $\beta_7$control variables + ε

As expected, in the high overlap owners sample, total overlap owners are positively related to announced deal value with the coeficient of 70.089, and with probability less than 0.001. Investor protection and CG bidder were negatively related to announced deal value, but the effect is not significant. Surprisingly, however, for the low overlap owner sample the coefficient of the total overlap owners variable are negatively and insignificantly related to deal value, (b= -24,295 p>0,05). Overall results suggest that overlap owners have major control and influence in M&A deal value, especially when the overlap owners are high.

Findings

The literature has attempted to measure tunneling using different proxies. Berkman, Cole and Fu (2008) examine loan guarantes issued by Chinese firms to their controlling shareholders. Chen, Jian and Xu (2008) suggest that dividend policy may also be used to tunnel cash to controlling shareholders. Gao and King (2008) use the difference between accounts receivable and accounts payable to related parties as a proxy for tunneling and show that this measure is related to corporate governance characteristics. Jian and Wong (2003) show that Chinese firms belonging to business group use related party transactions with their parents (in particular trading goods and services) as a way of manipulating earnings. Bae, Kang and Kim (2002) find that the value of Korean firms affiliated with industrial groups declines when they are asked to bail out underperforming firms in the group through rescue mergers. Bertrand, Mehta and Mullainathan (2002) use earnings shock to measure tunneling. This study enrich tunneling measurement using overpayment in M&A transaction with high overlap owner.

Prior research only has focused on principal-principal problem and principal-agent problem. This study also demonstrate about agent-principal-principal relationship that weaken the corporate governance mechanism. The presence of overlapping owner in the context of merger and acquisition could deteriote the monitoring by principals. Conflicting interests of shareholders give opportunity for manager to make suboptimal MA deals.

	Traditional Agency Problem	Principal Principal Agency Problem	Principal Expropriation Problem
	Principal Agent Problem	P-P-A Problem	P- P problem
Principals (P)	Homogeneous Interest	Heterogenous Interest	Heterogenous interests
Agent	Self interest	Self interest	Acts in principals interest
Principal's Constrain on Managerial Discretion	Low	Low	High

This study evidences that heterogeneous interest among shareholders introduce noise assessment of manager to make decision about Merger and Acquisition. We find that in merger and acquisition with high overlap owner, which have stakes in bidder and target firm, manager are more likely to overpay target. That overpayment, a transfer of wealth from owners of bidder's firm to overlapping owners, is one form of tunneling.

Conclusion and Limitation

Heterogeneous interest among owners may deteriote constraint of manager performance and tamper managers' accountability. Managers may be less restrained in pursuing deal in order to increase their compensation or to enhance their reputation. Manager may take benefit personally through engagement of bigger deals. When principal have heterogeneous interest, manager of acquiring firms with high overlapping owners are less constrained to overpay the target firms.

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overpay target. That overpayment, a transfer of wealth from owners of bidder's firm to overlapping owners, is one form of tunneling.

La Porta (1997) find that better investor protection and law enforcement improve minority shareholder's protection from expropriation and consequently reduce the private benefit of controlling shareholders. Courts in civil-law countries may tolerate accommodate more tunneling than courts in common-law countries because of: (i) a narrower application of the duty of loyalty largely to transactions with no business purpose, (ii) a higher standard proof in conflict-of-interest situations, (iii) a greater responsiveness to stakeholder interests, and (iv) a greater reliance on statutes rather than fairness when regulating self-dealing transactions. However, we conclude that tunneling occurs not only in economies with low investor protection (civil law) but also in economies with high investor protection (common law).

Two points are worth stressing. *First*, in recent years, the advanced civil-law countries, encouraged in past by a technology booming and in part by the flow of funds from foreign investors, have found it attractive to promote stock-market financing for new firms via legal reform. *Second*, for less-developed countries, including those that suffered from the Asian crisis, the failure of the legal system may be very costly precisely because they tolerate vast amounts of tunneling. Using legal reform to reduce tunneling is then a crucial element of promoting financial and economic development.

The limitations of this study are that this study focus only in M&A with overlapping owner, for future research, the sample should consist of MA with and without overlapping owners to make better inferences.

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THE ASSOCIATION BETWEEN FINANCIAL CHARACTERISTICS AND CAPITAL MARKET REGULATORY NON-COMPLIANCE

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ABSTRACT

This study examines the association between financial characteristics and capital market regulatory non-compliance. The financial characteristics are measured using firm size, profitability, liquidity and financial distress. Capital market regulatory non-compliance is measured by non-compliances of firms on regulations about conflict of interest, market manipulation, disclosures, and timeliness on submission of financial statement. This issue is important for regulators for improving the capital market regulatory effectiveness, and for financial communities to look at the meaning of financial information.

Using 92 sample firm years (1992-2001), this research tests whether profitability, financial difficulties, liquidity, and firm size determine company non-compliance toward the regulation. The results provide a number of important points: descriptively and intuitively, complying firms have better financial positions than non-complying firms. B*inary logistics regression* analysis indicates that *current ratio* has significant effect, while profitability (Returns on Equity) has only marginally significant effect on non-compliance behavior. Other variables: firms size, financial distress (debt to equity ratio), and some profitability measures are not significant. We conclude that the result of this study is partially consistent with the previous studies, that financial positions of firms may drive non-compliance behaviors. This result is worth noting for regulators to scrutinize the non-complying firms and their financial performances.

Key Word: Non-compliance; capital market regulation; conflict of interest; market manipulation; disclosure; timeliness of financial statement; and financial characteristics.

1.Introduction

Effective capital market and accounting regulation are important for creating fair and efficient capital market (Beaver 1998). Effective capital market regulation means regulation which all the parties involved in the market comply with the regulation. This also means that the capital market has low cost of transaction. Thus, the efficiency of the capital market is important, as it is the effectiveness of the regulation. The effectiveness of the regulation is also important for implementing the principles of good corporate governance. This study intends to examine the compliance of the firms with regard to the regulation of capital market in Indonesia, the Law No.8/1995 about the capital market and the implementation rules of the laws.

The effectiveness of the regulation has invited public criticism due to a number of legal cases such as those relating to the lost of shares, the short selling, reporting, initial public offering (IPO), right issues, and insider trading. Those cases may indicate the weakness of monitoring and enforcement of the regulation from Indonesian Capital Market Supervisory Agency (known as Bapepam) and may indicate the weaknesses of either Jakarta Stock

Exchange (JSX) or Surabaya Stock Exchange (BES) in developing the capital market in Indonesia. Even though many achievements have been made in the initial development stage of the market such as those in the areas of infrastructure, legal foundation, human resources and market development, the effectiveness of the law and regulation of the market is still under scrutiny.

Signs for efforts to enforce the laws can be identified from a number of punishments and fines to non-complied firms. During year 2000, Bapepam had fined 131 firms for Rp10.284 billion for their non-compliance to the regulation. The regulator also issued sanctions to the firms in the form of written admonition, suspension of business licenses, and revoking of the business licenses.

Bapepam investigated and found infringement cases related to public company transparency, stock trading, and management of investment. In disclosure cases, a number of firms are found not complying to disclosure regulation that obliges them to disclose transactions that may consists of related parties and conflict of interest, urgent information for the public, financial statement presentation, and consistency of the use of fund (with that of planned) from the offering. In cases related to stock trading, the firms manipulate market through fake trading, while in cases related to investment management the firms misconduct the placement of fund in portfolio of securities. These infringements, the importance of legal compliance and market efficiency signify the needs to examine factors that influence the non-compliance behavior and the characteristics of the non-complying firms.

This study is to explore the relationship between the financial characteristics of the firms and the infringement of Bapepam's regulation. This research focuses on some types of infringements that frequently occurred in Indonesian capital market such as the violation on the information openness, conflict of interest transactions, financial reporting timeliness, fraud, and market manipulation. The analysis of financial characteristics of the firms is important due to two reasons: the extensive use of the financial information and the public perception that the financial information conveys other information about the firms. Financial characteristic is also important components in implementing the transparency principle in corporate governance. The financial characteristics are the structural variables (firm size and company ability to pay debt) and the performance based variables (liquidity and profitability).

This article is organized into five chapters. The next chapter discusses review of theories and development of hypotheses. Chapter three discusses the research method and chapter four explains the result and analysis. The last chapter provides conclusion, limitation and suggestion for future research.

2.Theoretical Background and Development of Hypothesis

Effective regulation is important for establishing good corporate governance of firms which eventually results in efficient capital market. Regulation of capital market and principles of good corporate governance have similarities in contents, since they have similarity in objectives.

Regulation of Information and the Quality of Governance

Corporate governance (GCG) is a system to organize and to control the company to create value added for all stakeholders. There are two aspects emphasized in this concept, first, the importance of shareholders right to get information accurately and timely; and second, the company's obligation to disclose financial information including firm performance, ownership, and stakeholders accurately and timely. There are also four major components of the principles and concepts of GCG: fairness, transparency, accountability, and responsibility. The four components are important because they can improve the quality of financial reporting (Beasly et al., 1996) and reduce the agency problems. Chtourou et al. (2001) contend that the application of the principles of GCG consistently can hinder falsifying activities that result in unreliable financial statement.

Issues of corporate governances are most relevant in public company setting, because there are huge potentials of agency problems in the setting. Regulators at national as well as international level such as International Organization of Securities Commissions (IOSCO) has been involved in the process of enforcement of the principles of good corporate governance. Each member of IOSCO, including Bapepam who become a member since 1992, hopes to give a contribution in improving the quality of compliance to the principles of good corporate governance.

Bapepam, the capital market supervisory agency in Indonesia, has been exerting their efforts and applying regulations to improve the implementation of principles of good corporate governance to capital market participants and members especially the public companies. to

corrective or repressive action. The release and applications of rules to contain fairness and transparency principles are preventive actions to assure that the principles are implemented. Bapepam also conducts corrective actions such as punishment for public companies which violate the regulation. Further, the punishment can be imposed to company leaders and managers individually or collectively.

An example of regulation issued by the Bapepam is Rule No. X.K.1 on Information Disclosure. The regulation states that every public effectively registered company should report the report to Bapepam and the public a decision or event that contain material information or that could possibly influence value of the stock or investor decision, as soon as possible no later than the end of the 2nd day after the decision or the event occur.

Theoretical framework that obliges management to disclose information about the condition of the firm is explained in agency theory. Jensen and Meckling (1976) state that agency relationship exists if there is one or more individuals which called principal authorize the other individual or organization, which called agent, to manage their wealth. The principal, then, will provide facilities to support the work of the agent. Principals also delegate to the agent authorities to make decision with regard to the business and the wealth of the principals. An institution of monitoring and control is mandatory to assure that management acts on the interest of principals, and for that reason a regulatory institution obliges publicly listed firms to file reports about their decisions and about the firm.

Fraud, Market Manipulation, and Conflict of Interest

Fraud, market manipulation, and conflict of interest are typical unethical and unlawful acts in business that benefit certain parties at the cost of others through unfair transaction. Regulation to prevent fraud, market manipulation, and conflict of interest transaction can be explained using agency theory. Agency relationship is a contract between principals and agents (Coase, 1937; Jensen and Meckling, 1976; and Fama and Jensen, 1983). The point from agency relationship is segregation between ownership (principal) and control (management). Principals have expectation that agents will provide a certain level of return for the money they invested.

Agency theory tries to answer the problems in agency relationship (Eisenhardt, 1989): information asymmetry and different risk preferences, with effective contracting and effective

regulation. Effective contracting and regulation facilitate principals and agents to reduce agency problems. Principal may prevent the conflict of interest by using a good incentive and monitoring system (Jensen and Meckling 1976). Agent can also spend a bonding cost at certain circumstances to assure that there is no action against the principal's interest, or to assure that principal would give compensation to a beneficial action. However, agents still have a possibility to make decisions that maximize their benefits. The value of money that equal to a reduction of principal's prosperity is also a cost for the agency relationship which usually called as a residual loss.

Effective contracting and regulation may stimulate other instruments to reduce agency problems and agency costs (Jensen and Meckling 1976): the work of market for managerial resources, the work of efficient capital market, and market for corporate control.[310] A manager could be fired and replaced if he or she does not perform. Market for managers can also close the opportunity for bad managers, either bad performers or bad attitudes. The work of efficient capital market can be used as measurement of manager's performance through the company stock price, while market for corporate control may threaten weak corporate management by acquisition. In summary, an effective regulation will prevent fraud, market manipulation, and conflict of interest transaction.

Contracts and regulation are made to make the relationship capable to explain the items of the tasks of the management in managing the fund from investor. Ideally, they should sign a detailed contract which capable to accommodate all possible situations in the future. However, uncertainties of the future obstruct the making of perfect contract. Considering this situation, investors ought to give residual controlling rights to management, which is, rights to make decisions on certain occasions which have not been accommodate by the contract. Manager has a discretionary right in managing investor's fund and managers could do an expropriation of the fund. Manager's residual control right provide opportunities for embezzlement, that eventually resulted in disadvantages for investors.

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[310] Contract and regulation (laws) are similar in terms that both are agreed items by parties involved in the agreements. The difference is that contract is bound to limited signing parties while regulation is bound to the community members involved in transaction being regulated. Thus regulation is broader laws that contracts.

Expropriation could happen in many forms such as embezzling investor's fund, sell company's product to manager's company (an example of related party or conflict of interest) at lost, and selling other company's assets to manager's company. The worst form of expropriation is keeping the managerial position although there is lack or not enough competence (Shleifer dan Vishny, 1989). Jensen and Ruback (1983) contend that a fact of unqualified managers who defend their position is the most expensive agency problem.

Timely Submission of Financial Statement

Financial reporting is a medium of communication for company and interested parties or the stakeholders. It contains all information about the company especially company's economic resources and measurement of management achievement. The extent of benefit of financial reporting is determined one other things by the timeliness of financial reporting (Givoly and Palmon 1982, Schwartz and Soo 1996, and Na'im 2000). The benefit of the financial report decreases as the time passes (IAI 2002).

Timely financial reporting decreases the asymmetric information (Kim dan Verrechia 1994). The timeliness of financial reporting contributes to improve capital market efficiency, it is one of evaluation and pricing tools, one of information resources to prevent insider trading and to reduce leakage of information or rumor in stock market (Owusu and Ansah 2000). In Indonesia, the timely financial reporting is regulated in Law no. 8/1995 about Capital Market and Bapepam rule No.80/PM/1996 about Submission of Periodic Financial Reporting.

Compliance and Non-Compliance Hypotheses

Issues about compliance and non-compliances have been examined in social science especially in economics, psychology and sociology research. Compliance is personal, group or organizational behavior to do or not to do something in accordance with rules. Economics studies focus more on rational decision made by individuals to comply or not to comply considering the economic utility (Becker 1968). Psychology and sociology literature describe that compliance behavior is determined by internal and external factors (Tyler 1990a, 1990b). Internal factor is a will that emerges from nature of individuals, the strength of which would

influence their way of thinking and could control their behavior. External factor is strength from outside individuals which could influence their way of thinking and behavior.

Tyler (1990a, 1990b) also contends that there are two basic perspectives in sociology literature about law compliances: instrumental and normative perspective. Instrumental perspective assumes that an individual is entirely pushed by self interests and responses toward changes in tangible, incentive, and penalty that related to behavior. Normative perspective assumes that an individual is more oriented to moral values and against their personal interests.

Individual tends to obey law that they think it is in accordance and consistent with their internal norms. Normative commitment through morality means that an individual obeys the law because it is thought it is good, whereas normative commitment through legitimacy means that an individual obeys the law because the regulation that constructs the law has the right to control the behavior.

This study extends the sociological perspectives of compliance behavior by looking at the behaviors of firms in complying or not-complying the capital market regulation in Indonesia. We posit that financial conditions of the firms may drive the firms to comply or not to comply the regulations. Firms may tend to hide or to delay the release of information due to financial difficulties the firms face.

We try to explore the association of financial positions (i.e. total asset, total sales, financial distress, profitability, and liquidity) with behavior of the firms in complying or not complying to the capital market regulation (i.e. the rule of timeliness of financial reporting, information openness, conflict of interest transaction, and fraud and market manipulation). The reason behind this prediction is that management attempts to hinder financial difficulties by non-complying to the regulations. Another reason is that firms tend to comply with the regulation when they are in good financial positions, and when they have effective contracting so that they do not need to violate the laws. This research extends previous studies that focus on information regulation (disclosures and timeliness of financial reporting) to other regulation such as regulation against conflict of interest transaction and market manipulation. Thus, we hypothesize that larger firm size, lower debt to equity ratio, higher profitability, and higher liquidity are negatively associated with non-complying behavior of the firms.

3. Research Method

Sample and Data

The sample of this study is firms that do not comply to capital market regulation with regard to: fraud, market manipulation, information openness, conflict of interest transaction, timeliness of financial reporting (Bapepam rule no. kep-80/PM/1996). Specifically, the sample firms are selected based on the following criteria:

a. The firms are listed in Jakarta Stock Exchange.

b. The firms are fined due to their non-compliance to capital market rules by Bapepam for the periods of 1999-2001.

c. The non-complying firms are coded as dummy variable complying or not complying.

d. For comparison, we use randomly selected complying firms that have similarity in industry.

The data are collected from Bapepam's files and Indonesian Capital Market Directory of Jakarta Stock Exchange, and Centre of Capital Market Reference Faculty of Economics Gadjah Mada University.

Variable Definition and Measures

The dependent variable of the model used in this study is compliance or non-compliance behavior of the sample firms. Non-complying firms are identified based on the facts that the firms are being fined due to the non-compliance behavior. The complying firms are identified randomly from complying firms in similar industry. The variable is a dummy variable coded as 1 for non-complying and 0 otherwise.

The independent Variables used in this research are firm size, profitability, financial distress, liquidity. The profitability measures firms' ability to make returns, and these measures are used: return on investment (ROI), return on equity (ROE), and profit margin on sales. For the financial distress, this research uses debt to equity ratio (DER) as a proxy for levels of company's financial difficulty; liquidity is measured using current ratio; and firm size is measured based on total asset and total sales.

1738

Statistical Model to Test the Hypotheses

The data is analyzed using *Binary Logistics regression*, since the research has *dichotomous response model*. The logistic regression test uses *Backward Stepwise* method (*Conditional*) to filter for independent variables, that able the analysis to release unimportant variables one by one to find out the most significant variable. The logistic regression model is as follow:

$$C = \beta_0 + \beta_1 (ROI) + \beta_2 (ROE) + \beta_3 (PM) + \beta_4 (CR) + \beta_5 (TA) + \beta_5 (TS) + \beta_7 (DER) + \varepsilon$$
(1)

Where,
C: Dummy variable, complying (0) or not complying (1) the regulation,
ROI: Return on investment = net profit/total assets,
ROE: Return on Equity = net profit /equity,
PM: net profit margin ratio = net profit /sale,
CR: Current ratio = current assets/current liability,
DER: Debt to equity ratio = total liability/equity,
TA: Total assets,
TS: Total sales, and
ε: error.

4. Results and Discussion

Descriptive Statistic

Sample selection process results in 92 firms consisting of 46 of which are non-complying firms, and the others are complying firms. The non-complying firms and the types of non-compliances are listed in table 1. The number of firms with non-compliances to timeliness rule is the largest (25 firms), while firms with non-compliances on market manipulation is the least (3 firms). There are moderate numbers of firms who do not comply with the rules of conflict of interest (10 firms) and transparency (8 firms). Three non-complying firms do not have complete financial data, and thus, the final sample is 92 firms. Detailed list of the sample firms are presented in appendix.

Table 1. Non-complying Firms and Types of Non-compliances

Types of Regulation	Number of Firms
Conflict of interest transaction	10
Information openness	8
Financial statement timeliness	25
Market manipulation	3

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Table 2 describes the comparisons between complying and non-complying firms. Means of total assets and total sales of non-complying firms are higher than complying firms. However, the complying firms are more profitable, more liquid, and have lower debt to equity ratio than the non-complying firms.

Analysis and Discussion

The results of logistic stepwise regression are presented in table 3. The full model indicates that return on total investment (ROI), return on equity (ROE), and profit margin (PM) have negative coefficients meaning that firms with lower ROE, ROI, and PM tend not to comply to the regulation than firms with higher ROE, ROI and PM. However, those coefficients are not significant. Liquidity (current ratio) is the only variable that has significant negative effect in the full model ($p=0.07$ for full model and $p = 0.03$ for reduced model).

Table 2. Comparison between Complying and Non-Complying Firms

	Non-Complying Firms (Mean & *Deviation Standard*)	Complying Firms (Mean & *Deviation Standard)*	Independent t-test & Level of *Significance*
Total Assets	3.500	1.100	8,805
	9.300	*1.200*	*0,004*
Total Sales	1.600	780	5,680
	4.732	*1.003*	*0,019*
ROI (%)	-2	10	0,452
	18,90	*33,60*	*0,503*
ROE (%)	-27	13	1,934

	124	*70*	*0,168*
PM	-1,102	0,008	4,945
	6,00463	*0,52713*	*0,029*
DER	0,54	0,92	8,574
	7,34175	*2,71443*	*0,004*
CR	0,98	12,07	3,854
	1,15	*69,95*	*0,053*

The reduced models (model 4, 5 and 6) indicate that in addition to liquidity, profitability (ROE) has significant effect at very marginal level (p = 0,10).

The other variables: size (total assets and total sales), financial distress (debt to equity ratio), and profit margin and return on investment do not have significant effects. The finding that liquidity is the only significant variable is interesting and indicates that it may have the most serious pressure to management, because the current ratio is the measure of the ability of management to fulfill its short term obligation, and the short term obligation has immediate effects to the business. It is different from profitability that can be measured using various measures, and in fact management may be evaluated using various different measures, including non-financial measures.

Compared to previous studies, the finding is relatively consistent with those of Naim (2000) that examined the effects of financial condition of the firms to information regulatory non-compliances, Schwartz and Soo (1996), and Givoly and Palmon (1982). Those studies conclude in general that firms tend to hide bad news, delay the information dissemination, and not complying the regulations. The effects of size, either measured using total assets and sales are consistently not significant. A note worth mentioned that there are also some inconsistencies in terms of the significant measures such as profitability, where this study found it is ROE which has significant effect, while in Na'im (2000), it is ROA; and that current ratio is examined and it is significant in this study while it was not included in the previous studies.

Table 3. The Results of *Binary Stepwise Logistics Regression*

	Total Asset	Total Sales	Current Ratio	D/E Ratio	Profit Margin	ROI	ROE
Mode I (Full):	0,664	-	-	-0,34	-0,21	-	-

Coefficient	0,253	0,609	0,374	0,523	0,877	0,433	0,547
Significance		0,295	0,073			0,778	0,246
Model 2:							
Coefficient	0,681	-0,633	-0,373	-0,035		-0,471	-0,559
Significance	0,234	0,264	0,073	0,515		0,760	0,238
Model 3:							
Coefficient	0,698	-0,649	-0,385	-0,037			-0,644
Significance	0,222	0,250	0,061	0,497			0,133
Model 4:							
Coefficient	0,688	-0,694	-0,401				-0,660
Significance	0,231	0,217	0,053				0,181
Model 5:							
Coefficient		-0,179	-0,442				-0,815
Significance		0,597	0,039				0,107
Model 6:							
Coefficient			-0,452				-0.810
Significance			0,035*				0,105

5. Conclusion and Limitation

This research is to examine the effects of financial conditions of publicly listed firms on their compliance and non-compliance toward capital market regulations. Four aspects of regulation are being examined: timeliness of the financial reporting, market manipulation, conflict of interests and transparency. Using 92 sample firms years (1992-2001), this research tests whether profitability, financial difficulties, liquidity, and firm size determine company non-compliance toward the regulation.

The results provide a number of important points: descriptively and intuitively, complying firms have better financial positions than non-complying firms. B*inary logistics regression* analysis indicates that *current ratio* has significant effect, while profitability (Returns on Equity) has only marginally significant effect on non-compliance behavior. Other variables: firms size, financial distress (debt to equity ratio), and some profitability measures are not significant. We conclude that the result of this study is partially consistent with the previous studies, that financial positions of firms may drive non-compliance behaviors. This result is worth noting for regulators to scrutinize the non-complying firms and their financial performances.

Limitation of the study rests on the size of sample firms and distribution of the sample among the different types of regulation. There are much more non-complying timeliness regulation firms group than the other non-complying groups. This study may be extended by increasing the sample size, and different measures of compliance and non-compliance firms. A case study approach may also provide a deeper analysis explaining why firms conduct non-compliance behaviors.

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Appendix:

Sample of Non-Complying Firms and the Comparing Complying Firms, Industry
and the Types of Non-Compliances

No	Non-Complying Firms	Industry	Types of Non-Compliances	Comparing Firms
1	Surya Dumai Industri	Lumber & Wood Procucts	Conflict of interest & disclosure	Daya Sakti Unggul Corporation
2	Jakarta International Develop	Real Estate & Property	Disclosure	Duta Pertiwi
3	Sekar Laut	Food & Beverages	Conflict of interest and disclosure	Putra Sejahtera Pioneerindo
4	Dharmala Intiland	Real Estate & Property	Conflict of interest	Lippo Karawaci
5	London Sumatra Plantation	Agriculture, Forestry & Fishing	Conflict of interest & disclosure	Adindo Foresta Indonesia
6	Medco Energi Internasional	Mining & Mining Services	Conflict of interest	Aneka Tambang
7	Surya Inti Permata	Real Estate & Property	Market manipulation	Ciputra Surya
8	Squib Indonesia	Pharmaceutical	Timeliness of financial reporting	Tempo Scan Pacific
9	Jakarta Kyoei Stell Work	Real Estate & Property	Timeliness of financial reporting	Lion Mesh Prima
10	Sorini	Chemical & Allied Products	Timeliness of financial reporting	Unggul Indah Cahaya
11	Dynaplast	Plastic & Glass Products	Timeliness of financial reporting	Igar Jaya
12	Indomobil Sukses Internasional	Automotive & Allied Products	Timeliness of financial reporting	Andhi Chandra Automotive
13	Nipress	Automotive	Timeliness of financial reporting	Goodyear Indonesia
14	Voksel Electric	Cable	Timeliness of financial reporting	Jembo Cable
15	Sarasa Nugraha	Textile	Timeliness of financial reporting	Indo Rama Syntetics
16	Mustika Ratu	Consumer Goods	Timeliness of financial reporting	Mandom Indonesia
17	Steady Save	Transportation Services	Timeliness of financial reporting	Humpus Intermoda

Sample of Non-Complying Firms and the Comparing Complying Firms, Industry
and the Types of Non-Compliances (Continued)

No	Non-Complying Firms	Industry	Types of Non-Compliances	Comparing Firms
18	InterDelta	Photographic Equipment	Timeliness of financial reporting	Modern Photofilm
19	Indah Kiat Pulp & Paper	Paper & Allied Products	Information disclosure	Surabaya Agung Indonesia Pulp & Kertas
20	Pabrik Kertas Tjiwi Kimia	Paper & Allied Products	Information disclosure	Fajar Surya Wisesa
21	Multipolar Corporation	Electronic & Office Equipment	Timeliness of financial reporting	Multi Agro Persada
22	Asia Inti Selera	Food & Beverages	Conflict of interest	Aqua Golden Mississipi
24	Astra International	Automotive	Timeliness of financial reporting	GT Petrochem Industries
25	Selamet Sempurna	Automotive	Timeliness of financial reporting	Tunas Ridean
26	GT Kabel	Cable	Timeliness of financial reporting	SUCACO
27	Ades Alfindo Putrasetia	Food & Beverages	Timeliness of financial reporting	Davomas Abadi
28	Enseval Putra Megatrading	Whole Sale & Retail Trade	Timeliness of financial reporting	Matahari Putra Prima
29	Lippo E-Net	Technology Information	Timeliness of financial reporting	Limas Stokhmindo
30	Kopiteme Dot Com	Technology Information	Information disclosure	Integrasi Teknologi
31	Mayora Indah Indonesia	Food & Beverages	Information disclosure	Sari Husada
32	Jaya Pari Steel Corporation	Metal	Conflict of interest	Indal Alumunium
33	Hanson Industri Utama	Textile	Conflict of interest	Evershine Textile Industri
34	Siwani Makmur	Plastic & Glass Products	Conflict of interest	Asahimas Flat Glass

Sample of Non-Complying Firms and the Comparing Complying Firms, Industry
and the Types of Non-Compliances (Continued)

No	Non-Complying Firms	Industry	Types of Non-Compliances	Comparing Firms
35	Dharma Samudra Fishing	Agriculture, Forestry & Fishing	Market manipulation	Bahtera Adimina Samudra
36	Ultrajaya Milk	Food & Beverages	Market manipulation	Delta Djakarta
37	Surya Toto Indonesia	Stone, Clay, Glass & Concrete Products	Timeliness of financial reporting	Arwana Citramulya
38	Alaska Industrindo	Metal	Timeliness of financial reporting	Alumindo Light Metal
39	Eterindo Wahanatama	Chemical	Timeliness of financial reporting	Lautan Luas
40	Berlina	Plastic & Glass Products	Timeliness of financial reporting	Asia Plast
41	Sierad Produce	Food & Beverages	Timeliness of financial reporting	Fast Food
42	Barito Pacific Timber	Lumber & Wood	Timeliness of financial reporting	Tirta Mahakam Plywood
43	Polysindo Eka Perkasa	Chemical	Timeliness of financial reporting	Aneka Kimia Raya
44	Tecmaco Jaya	Machinery	Timeliness of financial reporting	Komatsu Indonesia
45	Siantar Top	Food & Beverages	Timeliness of financial reporting	Prasidha Aneka Niaga
46	Suba Indah	Food & Beverages	Timeliness of financial reporting	Tunas Baru Lampung

THE ROLE OF SELF-ACCOUNTING AND FINANCIAL CAPABILITY IN CONSUMER CREDIT DECISIONS

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Abstract

The role of financial capability in the consumers' financial behavior has been widely analyzed by the literature. The same happened for the relationship between debt and financial capability. The consensus about the benefits of an increase in the levels of financial literacy collides with a diversity of opinions on what the best solutions to increase financial capability. While methods based on traditional teaching may not be an effective solutions and they could not provide results in the short term, solutions oriented to support consumers in important financial decisions (requests for funding, choice of retirement solutions, etc..) may show greater effectiveness. Studies in literature have shown the tendency of subjects with high levels of financial capability to adopt a long term view and to upgrade their daily financial behavior with attitudes and practices related to self-finance (budget, financial check-up, saving for goals, etc.) The paper focuses on the relationship between financial capability and self-accounting practices, interpreting the latter as evidence of conduct financially aware. After a review of the literature designed to emphasize the role of self-accounting in the context of personal finance, a financial check-up based tool is proposed, pointing out how the financial accounts' schemes and logics (regular budget, estimates and forecasts checking targets) may find useful application in the context of personal finance.

Key-words: Self-Accounting, Financial Capability, Consumer Credit

Introduction

The relevance of financial capability is determined by the evolution of the market and by the ever increasing degree of financial innovation. The surge in the number of products and services and their articulation in a variety of customized solutions have simultaneously expanded the range of possible options but also the complexity of customer choices.
All agree that increase in the number of available financial solutions turns into a market improvement only if the customer is able to evaluate the distinguishing characteristics of each one, thus recognizing that most suitable for his or her needs; however several studies have shown that the level of knowledge in financial matters is generally low and, sometimes, it's not sufficient to formulate sound and responsible choices regarding saving, investment and borrowing.

There is vast awareness that a knowledge divide separates the supply and the demand side of the market; because this situation is not considered to be positive for several reasons[311], governments, supervisory authorities and private organizations have started

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[311] A financial market where the consumers are unable to detect the differences between products is a market oriented to inefficiency and mispricing phenomena, and a consumer that

to study the alternatives available to rebalance the relationship between consumers and financial intermediaries. The diversity of opinions regarding the means of intervention and the target populations has led to the start of a multitude of projects and initiatives that differ in purpose, logic and duration. The choices that might seem more natural – the integration of financial capability courses into the scholastic curricula – does not seem to be totally effective[312] and it does ignore adults (the most active in financial terms) who, being no longer of school age, would excluded from such programs.

While it would be illogical to ignore a significant part of consumers, letting them to be guided in their personal financial choices only by their own experiences and beliefs, it must be also be considered that it is extremely expensive and complicated to engage in a comprehensive educational program considering also the limitations of time and motivation of the adult population. The assumption that adults should be asked to invest considerable portions of their free time to learn concepts which often do not even feel the need to acquire, highlights the limitations of a mass approach. More suited to the needs of adult consumers are those solutions that are provided in the proximity of specific financial decisions, focused on topics closely related to the object of choice. From this point of view, financial capability is not any more something generic and standardized (by the logic that "one size fit all") and becomes a diversified mode of action, oriented through the real consumers needs.

This paper focuses on consumer credit, by proposing a decision support tool aimed at those who are considering taking new financing. The goal of the tool is to focus consumers' attention on some critical choices of financing, with a highlight of the possible impact of a specific loan on the financial situation of the borrower.

In the first part we will focus on the contribution that the planning and control approach, typical of accounting, can provide to financial capability. Once the usability and adaptability of the accounting instruments is tested, the necessary adjustments required to avoid possible behavioral distortions, which occur in case consumers are asked to a self-made diagnosis, will be considered. The second part of the paper presents the tool structure and the estimation of its parameters through an analysis of the Italian market.

ACCOUNTING, SELF-ACCOUNTING AND FINANCIAL CAPABILITY

Financial capability becomes relevant, talking about consumer credit, when issues such as indebtedness and the equilibrium in consumer finances and his or her the capacity of repayment of debts are considered. There are several profiles that come into consideration when we analyse the level of consumer comprehension of the risks that come with a new debt. A first element of vulnerability in the consumer logic is "shortermism" (Lichtenstein, Fischhoff 1977). Consumers overweight benefit from the immediate possession of the purchased good, ignoring the effects that loan repayments will have on their future financial situation (Hilgert, Hogarth, Beverly 2003). A second

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doesn't really understand a financial product could make wrong decisions that could affect his financial future.

[312] The adoption of financial capability courses by schools and universities is very expensive and seem to be uneffective in producing long-term knowledge improvements (Mandell 2006).

critical factor is the inability of consumers to evaluate the financial contract, as they concentrate on partial indicators such as the amount of the installment, while ignoring comprehensive measures such as total financial amount of debts or the APR. A third critical factor is the tendency of consumers to narrow framing. Assessments about the sustainability of funding should be based on a comprehensive view of the financial situation, rather than focussing on the analysis of the specific operation. Fragmentation, which follows a myopic view and partial equilibria of medium-to long-term risk, is a characteristic of consumer credit choices, as it happens with all the activities where the limited payment amount leads to focus on a small part of a wider financial balance. The consumer considers the single debt, forgetting about its effect on his or her global financial situation. A fourth element to be considered is the consumers' overconfidence. As Graser-Weber (2007) show, consumers tend to attribute to themselves the credit for financial successes, identifying exogenous factors to justify their losses. The trust in a full mastery in financial matters, based on previous financial experiences, is identified as the main cause of overconfidence, which exposes the consumer to take risks and make choices without having the full awareness of the consequences.

If the critical factors that expose consumers to a not-optimal financial behavior are different and suggest the need of a financial counseling activity, it is useful to analyze the contribution that accounting principles and solutions can provide on the matter.

Using accounting for financial capability purposes is motivated by the common goal of management and control of financial balances that firms and consumers share. Thaler (1999) emphasizes how individuals feel the need to "record, summarize, analyze, and report the results of financial transactions and other events, doing so with the same purposes of the organizations that use the managerial accounting". The desire to keep trace of where their money is going, and to keep spending under control can replicate the business world's own accounting practices.

Concerning the use of accounting principle Heath and Soll (1996) note that consumers tend to classify their expenditures into categories (food, transportation, entertainment, etc..) as well as companies gather their expenditure items into homogeneous groups. This mental classification is a preliminary work for an activity of planning and expenditure control, which, at the end, looks very similar to a budget approach. Shefrin and Thaler (1988) and Karlsson (1998) show that individuals classify assets into three mental accounts: current income, current assets, and future income, thus creating an accounting structure similar to a budget based on corporate balance sheet, income statement and budgets. Evidence of the differentiated approach is obtained by Karlsson (1998): he demonstrates the future expenses have a more negative impact on the decisiveness to buy when the payments based on current assets are preferred to current income ones.

While companies have to report their performance to a variety of stakeholders and are thus required to formalize the result of the accounting process in a document (the balance), the absence of such need allows the consumer to adopt a mental budget. Thaler (1993) defines mental accounting "as a collection of aggregation rules for what gets combined with what". For Hirst, Joyce and Schadelwald (1994) it's "a type of framing in which individuals are hypothesized to form accounts for the psychological benefits of cost and outcomes", while Kahneman and Tversky (1981) identify mental

account as "an outcome which frame specifies (i) the set of elementary outcomes that are evaluated jointly and the manner in which they are combined and (ii) a reference outcome that is considered neutral or normal". Similarly Gourville and Soaman (1998) and Prelec and Lowenstein (1998) define mental accounting as a cognitive form of bookkeeping that individuals practice to keep track of expenses and control consumption.

Different papers identify in mental accounting, in addition to a purpose of budgeting, a control instrument. Heath (1995) and Heath and Soll (1996) note that the mental budgeting is a tool for expenditure control. Cheema and Soman (2006) identify it as a self-regulatory mechanism or a self-control device, that prevent consumers "from doing what they want to do (eg, buy a car), forcing them instead to do What they think they should do (eg, save for retirement)".

The virtual nature of mental budget has important implications on the operational level, which potentially can affect its reliability. A first element of doubt for a mental budget adoption concerns the inner conflict of consumers who, faced with an expenditure constraint in self-imposed mental budget, want to make a purchase for larger amounts. Cheema and Soman (2006) have verified how consumers flexibly classify expenses, or construct accounts, to justify spending. This flexibility allows consumers to find loopholes and to circumvent the self-control imposed by mental accounts. The same conclusions are reached by Kunda (1990). The author states that "the biasing role of goals is thus constrained by one's ability to construct a justification for the desired conclusion: people will come to believe what they want to believe only to the extent that reason permits". The conclusion is that the virtual nature of mental budgeting helps to make it more malleable and, therefore, less credible and effective.

A second critical profile of mental budgeting concerns the classification of items which are not directly attributable to any of the known category (home, entertainment, food, etc..). The risk of misclassification can lead the consumer to exceed the limits imposed by budget, citing the possibility of splitting the cost across several categories.

A third critical factor in the use of mental budgeting is the narrow framing (Bonini, Rumina 1996, Moon, Keasy, Duxbury 1999). It refers to the tendency of consumers to consider buying and spending individually, without considering purchases made together, or relating to the same category. A typical example of narrow framing is the purchase of a good on sale. Being concentrated on the discounted price consumers tend to forget to pay adequate attention to the price of the other goods of the shopping-list; this leads to spend more than one would have done if he or she had compared the total expenditure with that of an alternative supplier.

The reliability of mental budgeting is also hampered by the tendency of consumers to react very differently to the same circumstances, however in different situations. For example, individuals who suddenly have access to significant financial assets (by inheritance, lottery winnings, etc.) tend to have different purchasing behavior than those who get the same amount via wise and planned investment activities (Hirst, Joyce and Schadelwald 1994). There are also evidences that the increase in spending in the first case is sometimes excessive even considering the new wealth (Moon, Keasy, Duxbury 1999).

The flexibility of mental accounting, especially compared to a written budget, is proved by Heat and Soll (1996), which recognize that the latter, being based to a higher degree of formalization, forces the consumer into a more rigorous approach thus preventing the breach of the financial limits of the budget. All these considerations strongly suggest the use of a written budget. The added value of writing a budget is also stressed by Thaler (1990), that explains the role of written budget in mitigating the consumers' tendency to prefer current consumption to the future one. It would also effectively generate a sense of guilt introducing a psychological cost that can inhibit the consumer from making unplanned purchases. Prelec and Lowenstein (1998) in analyzing the mental processes of consumers show that a written budget helps the consumer to rationalize choices. Similarly Sharif and Thaler (2006), emphasizing non-rational behavior in cases where the payment and use of the asset are not simultaneous, demonstrate the effectiveness accounting and of written budgets in reducing these phenomena. Finally, written budgets contribute in reducing consumers' shortermism, helping them to become aware of the of medium-long term effects connected with their current behavior (Wertenbroch 1998).

SUPPORTING CONSUMERS: A PROPOSAL

Accounting and self-accounting methods have been adopted to develop a tool designed to support consumers that are considering taking a loan. The goal is to define a model of self-assessment enabling consumers to determine the impact of a new loan on their financial situation. To be effective with adults, however, the tool has to overcome the abovementioned problems of traditional education. Because adults would allocate only a fraction of their time to learning financial matters only the financial knowledge that is needed has to be delivered and it has to be delivered when is needed, and the way it is acceptable and understandable by the user. This means complying to principles of relevancy, contingency and usability which require to answer properly to specific needs and to actual problems. Ergonomics is thus the underlying rule that mandates the way the tool is conceived and developed; ergonomic principles, referred to the educational contents, impose that the model is "tailor-made" and therefore finds its input in the form of the easily available and usable data on the consumer's financial flows. Regarding the form of the model, ergonomics require that the input information is known (or can be found) by the client, that they are clear and simple, avoiding the use of jargon (FSA 2004) and that attention is paid not to require an excessive amount of input information. Should the model require the consumer to find data that he or she does not possess (or that are difficult to obtain) would deprive it of its function as an information intermediary. Being simple and user friendly is necessary in order to reach consumers that lack basic financial knowledge, precisely those with the greatest need for counselling; economizing on the amount of input data required is considered necessary in order to minimize the abandonment of those who, lacking a strong motivation, might consider the opportunity-cost of using of the model as excessively high. For similar reasons, the output of the model must also respect its overall principles: it must be clear and immediately understandable.

As is the case for all forms of financial counselling (the provision of advice on savings, investments, insurance, etc), the elaboration of implicit information on customers seeking loan advice occurs on the basis of the know-how and ability of the counsellor in the area of problem-solving; it thus refers to long term financial budgeting,

and to estimations of the consumer's default risk. From the input data relative to the consumer's periodical cash flow, it is possible to obtain a tailor-made estimate of the consumer's level of risk and identify his specific financial habits (spending attitudes, tendency to borrow, saving habits, etc.). Data relative to a consumer's socio-demographic profile allows the estimation of the consumer's risk by means of a regression analysis based on the behaviours of a representative sample of consumers. The output of the two different analysis is a statement summarizing the possible effects that the new loan could have on the consumer's financial situation, highlighting the consequences that their current behaviour and choices could have on the future financial situation.

METHODOLOGY AND DATA

To create the model of self-assessment for consumer credit, two methods of analyses were used in combination. The first uses the logic of a financial budget to determine the net residual cash flow (NRCF) available to the consumer after having provided for his primary needs (food, clothing, housing, etc.), financial obligations (tax payments, repayment of current loans, etc.) and having satisfied any additional needs (free time, entertainment, etc.). Over a defined period of time, the NRCF is calculated as the difference between total monthly income (salary, investments returns, benefits, etc.) and the total of his expenses and financial costs. The NRCF is considered as a measure of the consumer's ability to reimburse new loans and as a measure of the consumer's ability to face any unexpected events that may negatively affect the family budget (such as a reduction in income or an increase in expenditures). Unemployment, divorce and invalidating illnesses (and/or those that require expensive medical care) are some of the events able that might cause the default of the consumer (Kempson, Atkinsons 2006). NRCF is standardised by considering it as a percentage of total income. Given that a low value of NCFR corresponds with a situation in which a larger part of the income is dedicated towards daily needs and the repayment of current debts, it can be argued that the lower the level of NRCF, the risk of default of the borrower becomes higher due to the consumer's limited capacity to cope with unexpected financial events. In order to simplify the information and make it more intuitive for the consumer, five classes of risk were defined (0-5) where lower values are associated to situations of less risk and higher values are associated with situations of greater risk. Table 1 presents the different classes of risk.

Table 1 – financial analyses of consumer cash flow and default risk

Class of risk	NRCF - Net Residual Cash Flow *(as percentage of total incomings)*
0	25%≤ NRCF
1	20%≤ NRCF <25%
2	15≤ NRCF <20%
3	10%≤ NRCF <15%
4	5%≤ NRCF < 10%
5	NRCF < 5%

Data relative to financial inflows and outflows represent the input by the consumer to the model. During the data entry, the consumer is guided by means of insertion grids. Inflows are classified as (1) net income from employment and other incomes (dividends, rents etc.), while the principal expense categories regard (1) housing costs (maintenance, energy and heating, furniture and electrical domestic goods), (2) tax, (3) food and drink, (4) clothing and shoes, (5) transport and communications (telephone, internet, fuel, car insurance, car maintenance costs, etc.), (6) leisure and education (books, music, pay-tv, cinema, theatre, sport, etc.), (7) other goods and services (medical expenses, care costs, etc). Next to these items the consumer is asked to indicate financial obligations relative to current debts (mortgage and other loan repayments) as well as the repayments of the new loans that the consumer is considering applying for.

Some data, such as those regarding spending habits which are tipically individual can only be supplied by the consumer. As to other expenses, estimations, based upon official statistical surveys, are available; these suggestions alleviate the burden of data entry for the consumer. The availability of such official data allowed their use in this study; however the same methodology can be applied in other countries once the quality of official statistics is (hopefully) comparable. The data source is the [Italian] National Institute of Statistics (ISTAT) which regularly runs enquiries on the purchasing habits of Italian[313] consumers in reference to food and drink, clothing and shoes, transport and communications, leisure, and other goods and services. The average level of national spending (ExAve) was modified in order to consider the impact of three important factors: geographic location (AreaEx$_a$), profession (JobEx$_b$) and the composition of the household (FamilyEx$_c$); these three factors, indeed, influence the level and the composition of family expenses. The average of the estimates on the division of the 'd-th' category of spending (e.g. food, clothing, etc.), whether for the 'b-th' job condition (JobQuote$_{b,d}$) or for the 'c-th' category - composition of the household (FamilyQuote$_{c,d}$), allowed to refine the estimations of the individual spending items. The estimate of the level of spending for the 'd-th' spending item (e.g. clothing, food, etc.) for a subject living in the 'a-th' region (Tuscany, Sicily, etc.) that holds the 'b-th' job (company director, manual labourer, etc.) and that shows the 'c-th' family composition (e.g. married with 2 children) was calculated in the following way.

$$EX_{a,b,c,d} = ExAve \times (1 + AreaEx_a) \times (1 + JobEx_b) \times (1 + FamilyEx_c) \times \left(\frac{JobQuote_{b,d} + FamilyQuote_{c,d}}{2} \right)$$

The parameters within vectors AreaEx, JobEx and FamilyEx indicate in which percentage the level of spending is different from the mean. Positive values indicate that subjects belonging to such categories show average levels of spending that are much greater, the higher the value of the parameter. Vice versa, negative values of the parameter indicate levels of spending that are lower than the average. The estimate of the parameters was obtained using the ISTAT tables on the division of Italian household spending on consumer goods.

The analysis of the NRCF was supported by a sample statistical analysis aimed at determining the default risk of individual consumers by comparing their socio-demographic-behavioural profiles with those of a reference population. The data analysed were made up of a sample of 206,334 observations relative to consumers that

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[313] Istituto Nazionale di Statistica (ISTAT). 2006. Family consumptions – 2005

had previously applied for a loan in Italy during the period 2006-2007. The data were made available by Experian Italia that extracted and stratified the sample data in order to make it representative of the Italian consumer credit customers.

The sample was analysed by using a logistic regression model, at the basis of which the behaviour of the measure of default risk (R) was reproduced, starting with the constant α, through i regressors x_i, of which the estimation parameters were contained within vector β, and error term ε.

$$R = \alpha + \beta \mathbf{X} + \varepsilon$$

The independent variables of the model regard both the socio-demographic profile of the consumer and his financial behaviour. The first group of variables were age, gender, geographical region, job, living conditions, composition of the household and the number of dependent family members. The second group were the presence or the lack of loan applications in the previous six months, the number of current loans, the number of late payments in the last twelve months, the effective monthly amount of repayment of current loans and its weight as a percentage of net income.

The choice of variables was based on the results of previous studies on consumer financial behaviours. The tendency of consumers with lower incomes, higher percentages of the income devoted to the repayment of current loans, and with a number of late payments within the last twelve months to be more easily vulnerable to financial distress has been demonstrated in various studies (Barron, Elliehausen, and Staten 2000; Getter 2003). Where arrears in repayments are a direct evidence of the borrower's lack of financial resources and are followed a drift towards situations of financial distress, income and the repayments to income ratio are related to potential default as they make , the borrower less prepared to face unfavourable variations in his cash flow.

Including the number of applications for new loans in the previous six months is based on the assumption, confirmed by the literature (Elliehausen, Lundquist, Staten 2007), that a consumer in financial distress starts use new loans to reimburse older ones before declaring default. Living conditions are relevant since homeownership (compared to having to rent the home) means the borrower is not bound to pay rentals that could overload/stress the family budget. In addition to homeownership, marital status and age are the life cycle characteristics associated with the request for loans (Lansing, Maynes, and Kreinin 1957; Juster and Shay 1964; Aizcorbe, Kennickell, and Moore 2003).

The results of the regression analyses were traced back to five classes of risk where higher values correspond to greater levels of risk. The sum of the results obtained with the first method (the financial method) and those obtained from the regression model define the overall result of the model. When the first method showed a structural deficit in the family accounts, destined in the medium-long term to define situations of difficulty, the model attributes by default a final result equal to 10, corresponding to the highest level of risk. Indeed, if consumers regularly spend more than they earn, it is not necessary to analyse the other behavioural variables in order to reach the conclusion that they are destined to end up in financial distress in the medium-long term. In other

cases, the model expresses a rating obtained from the sum of the results of the first method (0-5) and those from the second (0-5). It therefore has a variation interval of 0-10, where higher values correspond to an equally high risk of financial difficulty.

Being expressed by a discrete number between zero and ten makes the results simple to communicate, interpret and immediately comprehensible. Because the same result can be obtained with different combinations of intermediate results (from the two methods) the output is enriched with comments differentiated according to the average results in order to highlight the different components of risk that emerge during the elaboration.

RESULTS

The estimate of the parameters required to calculate the individual items of expenditure associated to the individual socio-demographic profiles led to the identification of the following vectors: AreaEx, JobEx, FamilyEx; and matrices: JobQuote and FamilyQuote – the values of which are reported in the tables 2 to 6.

Table 2: parameters relative to geographic location used in the calculation of consumer spending levels (AreaEx)

AreaEx	Value
Piedmont	+2.71%
Valle d'Aosta	+11.19%
Lombardy	+22.91%
Trentino Alto-Adige	+24.63%
Veneto	+17.09%
Friuli Venezia Giulia	+1.81%
Liguria	-3.88%
Emilia Romagna	+18.89%
Tuscany	+9.82%
Umbria	+2.84%
Marche	+4.00%
Lazio	+4.47%
Abruzzi	-7.47%
Molise	-9.23%
Campania	-20.05%
Puglia	-11.84%
Basilicata	-13.38%
Calabria	-18.43%
Sicily	-28.06%
Sardinia	-8.03%

Table 3: parameters relative to employment professions used in the calculation of consumer spending levels (JobEx)

JobEx	Value
Entrepreneur and businessman	+25.55%
Selfemployed	+4.28%
Manager and employers	+13.80%
Workers	-15.12%
Retired from work	-34.69%
Other conditions	-44.85%

Table 4: parameters relative to the family composition used in the calculation of consumer spending levels (FamilyEx)

FamilyEx	Value
Single under 35 years old	-23.03%
Single within 35-64 years old	-28.32%
Single over 65 years old	-46.18%
Couple without child (head under 35 y.o.)	+6.74%
Couple without child (head within 35-64 y.o.)	+0.79%
Couple without child (head over 65 y.o.)	-15.02%

	Couple with 1 child	+17.57%
	Couple with 2 childs	+21.71%
	Couple with 3 or more childs	+24.63%
	Single with child	-13.74%
	Other conditions	+7.79%

Table 5: the percent levels of spending per individual item and divided by profession

JobQuote	Food and beverage	Clothing	Transport and Communications	Free time	Other goods and services
Entrepreneur and businessman	25.57%	5.29%	31.75%	11.11%	26.28%
Selfemployed	28.57%	11.59%	28.41%	9.05%	22.38%
Manager and employers	26.17%	11.95%	28.27%	11.15%	22.46%
Workers	32.34%	10.31%	29.38%	9.22%	18.75%
Retired from work	39.07%	8.79%	25.98%	8.41%	17.76%
Other conditions	38.49%	9.49%	24.78%	9.31%	17.93%

Table 6: the percent levels of spending per individual item and divided by family composition

FamilyQuote	Food and beverage	Clothing	Transport and Communications	Free time	Other goods and services
Single under 35 years old	23.52%	10.56%	31.52%	10.40%	24.00%
Single within 35-64 years old	28.18%	10.14%	28.52%	8.93%	24.23%
Single over 65 years old	50.57%	7.78%	15.79%	8.01%	17.85%
Couple without child (h.o.f. under 35 y.o.)	22.77%	11.78%	29.62%	9.24%	26.59%
Couple without child (h.o.f. within 35-64 y.o.)	27.82%	10.79%	30.52%	8.09%	22.77%
Couple without child (h.o.f. over 65 y.o.)	43.80%	8.00%	23.00%	7.80%	17.40%
Couple with 1 child	29.50%	10.86%	29.50%	9.56%	20.58%
Couple with 2 childs	29.66%	11.96%	28.26%	10.40%	19.72%
Couple with 3 or more childs	32.30%	12.00%	27.56%	11.26%	16.89%
Single with child	32.10%	11.09%	27.23%	10.42%	19.16%
Other conditions	34.39%	9.47%	29.24%	9.14%	17.77%

The heterogeneity of the consumer spending habits is highlighted by the percentage values of the first three parameters (geographic area, profession and family composition). The differences in the levels of spending in the various geographical areas can be, at

least partially, explained by the different level of prices in different regions; for example, the general level of prices in Sicily is clearly lower than that in Tuscany (AreaEx Sicily – 28.6%, AreaEx Tuscany +9.82%). The differences in the spending levels related to the professional position is explained by the differences in income; also, it is reasonable that spending levels are higher for larger families, and when the head of the household is in the working age bracket.

The steadiness in the demand for basic goods is verified in the data on the composition of expenditures. Indeed, it is reasonable that when financial resources are limited the proportion of expenditures destined for primary needs (e.g. food, etc) tends to increase at the detriment of non-essential spending (e.g. leisure).

The demographic characteristics and behaviours of the sample used for the regression logistics and the relative independent variables are presented in tables 7 and 8.

Table 7: Description of the qualitative and descriptive statistics of the dependent variables

Indipendent variable	Description	%
sex	Gender	
	Male	67.47%
	Female	32.53%
area	Region	
	Piedmont	7.21%
	Valle d'Aosta	0.14%
	Lombardy	17.32%
	Trentino Alto-Adige	0.88%
	Veneto	5.75%
	Friuli Venezia Giulia	1.61%
	Liguria	2.91%
	Emilia Romagna	6.16%
	Tuscany	5.29%
	Umbria	1.29%
	Marche	1,.2%
	Lazio	11.71%
	Abruzzi	2.20%
	Molise	0.40%
	Campania	8.64%
	Puglia	8.03%
	Basilicata	0.73%
	Calabria	4.01%
	Sicily	9.65%
	Sardinia	4.35%
job	Job	
	Entrepreneur and businesmann	2.48%
	Clerks	30.82%

		Worker	44.25%
		Doctor	1.25%
		Teacher	2.43%
		Soldier	2.46%
		Retired from work	15.86%
		Housewife	0.37%
		Student	0.04%
		Unemployed	0.05%
house	Living condition		
		Rent	23.97%
		With parents	15.81%
		Homeownership (with mortgage loan)	0.05%
		Homeownership (without mortgage loan)	57.65%
		Other conditions	2.50%
family	Family composition		
		Single	30.00%
		Divorced	2.82%
		Married	57.48%
		Cohabitant	1.81%
		Separated	3.97%
		Widower	3.92%
new_borr	Requests for new loans in the last six months		
		Yes	9.69%
		No	90.31%

Table 8: Description of the quantitative and descriptive statistics of the dependent variables

Indipendent variable	Description	Mean	SD
age	Age	44.20	13.39
cr_line	Number of active credit lines	1.429	1.36
late	Arrears in the last 12 months	0.756	2.329
people	Dependents relatives	0.926	1.472
debt_perc	Expenditures relative to the repayment of existing debts on total income	26.17%	78.39

The higher proportion of males (67.47%) in the sample population can be explained by their role within the family of decision makers on financial matters (FSA 2001); because of this, even when the loan is intended for the entire family, the principal borrower tends to be the male. The geographic distribution takes into account difference population densities, also connected to the presence of large cities (e.g. Rome and Milan). The composition of the sample regarding professions reflects both differences in the population numbers and different tendencies to use credit, justifying the strong prevalence of clerks (30.82%) and manual workers (44.25%). The data on repayment to income ratio shows high volatility within different categories, meaning a cross sectional use of credit.

The results from the logistic regression analysis carried out on the sample are reported in table 9.

Table 9: Results from the logistic regression analysis, determinants of consumer default risk

Indipendent variable	Description	Estimated Coefficient	p-value
age	Age	-0.00611	<0.0001
cr_line	Number of active credit lines	0.2652	<0.0001
late	Arrears in the last 12 months	0.3264	<0.0001
people	Dependents relatives	0.0854	<0.0001
debt_perc	Repayment to total income ratio	0.000287	<0.0001
sex	Gender		
	Male	0	
	Female	0.0224	0.0207
area	Region		
	Piedmont	0	
	Valle d'Aosta	0	
	Lombardy	0	
	Trentino Alto-Adige	-0.4169	<0.0001
	Veneto	-0.0564	0.0009
	Friuli Venezia Giulia	0.1806	<0.0001
	Liguria	0	
	Emilia Romagna	0	
	Tuscany	0	
	Umbria	-0.2353	<0.0001
	Marche	0	
	Lazio	0	
	Abruzzi	0	
	Molise	0	
	Campania	0.1991	<0.0001
	Puglia	0.1206	<0.0001
	Basilicata	0	
	Calabria	0.1678	<0.0001
	Sicily	0.1907	<0.0001
	Sardinia	-0.1436	<0.0001
job	Job		
	Entrepreneur and businesmann	-0.1993	
	Clerks	-0.2295	
	Worker	0	
	Doctor	0	
	Teacher	-0.4037	<0.0001
	Soldier	-0.2655	<0.0001
	Retired from work	0.0565	0.0003
	Housewife	-0,6173	<0.0001
	Student	0	
	Unemployed	0	
House	Living condition		

		Rent	0.4059	<0.0001
		With parents	0.2239	<0.0001
		Homeownership (with mortgage loan)	0	
		Homeownership (without mortgage loan)	0	
		Other conditions	0.3696	<0.0001
Family	Family composition			
		Single	0.1248	<0.0001
		Divorced	0.3397	<0.0001
		Married	0	
		Cohabitant	0.2758	<0.0001
		Separated	0.3533	<0.0001
		Widower	0,2397	<0.0001
new_borr	Applications for new loans in the last six months			
		Yes	1.0005	<0.0001
		No	0	
Observation	206,334			
Degree of freedom	44			
R^2	0.2132			

The estimated model shows a "good fit" and is able to account for about 21% of total variance. The results indicate the variables most directly linked to consumer financial behaviour, rather than those relative to the socio-demographic profiles, that are more highly related to situations of financial distress. The number of current loans (0.2652) and the presence arrears in the last twelve months (0.3264) both show direct links to the risk of default, together with multiple loan applications in the last six months (1.0005). Thus, this study confirms the previous empirical evidence reported in the literature (Elliehausen, Lundquist, and Staten 2007). The opinion that individuals with low levels of homeownership have a definite riskier profile (those paying a rent 0.4059, in other conditions 0.3696) is justified by the higher expenditures that depress the NRCF and diminish consumer capacity to face unexpected financial problems. Significant differences are also shown by profession. The data show how manual workers, students and the unemployed are significantly much more exposed to the risk of financial distress than managers (-0.1193), clerks (-0.2295) and teachers (-0.4037). The large gap that separates married couples from the separated (0.3533) and divorced (0.3397) is highly consistent with prior research (Canner and Luckett 1991; Black and Morgan 1999; Fay, Hurst, and White 2002; Lane 1969; Stavins 2000).

CONCLUSIONS

The present study investigates the potential increase of the cognitive and decision making skills of consumers that are considering taking a new loan and are potentially exposed to financial distress risk. Thanks to the adoption of accounting methods, the tailor-made analysis of periodic cash flows, allows consumers to determine their own financial capacity and the "room" for additional finance. A logistic regression model applied to a reference sample is used to give the consumer a measure of his or her personal risk of financial distress; socio-demographic-behaviour profile is related to that risk. The final result is a decision making tool which combines the two models described

and, because of this, it is able to consider each individual own characteristics and to situate the judgement on financial sustainability.

As variables were chosen through an analysis of previous research, and results obtained in the empirical verifications are consistent with the latter, our model can be, indeed, considered robust; the low levels of data entry and the availability of the information requested facilitate the model's use even by those that do not have a high level of financial know-how. Similarly, the use of an assessment scale of 0-10, once more grants interpretational simplicity to the results.

On the conceptual level, the present study supports the idea that financial counselling can be provided also via non-human interfaces (such as web-based solutions) and that it can also broaden the effects of financial education thus strengthening consumer protection. Compared with education, counselling is better adapted to the needs of adult consumers who are difficult to reach with school-based educational programmes and who have a low availability to attend regular classes (expecially when compared with youngsters). The importance of addressing adults and not only students is amplified by the risks arising in a situation where levels of financial literacy are low, financial systems are increasingly complex and consumers tend to be autonomous in their decision making process.

The possibility for consumers to use the model repeatedly, modifying the input data (income, entertainment spending, the repayment rates of the loan the individual is requesting, etc.) turns the model into a tool for financial education in itself. Simulating different financial behaviours and having the possibility to check the effects that such behaviours would have upon the risk of incurring financial distress helps the consumer to improve his or her perception of risk and to quantify the advantages linked to more financially responsible behaviours.

From the theoretical perspective, the study supports the hypothesi that financial capability can be implemented by an accounting approach. The tool, as a formal budget, represents a step forward the mental budget approach analyzed by the literature.

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5.5 Corporate Governance

CORPORATE GOVERNANCE & CORPORATE CITIZENSHIP
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Abstract

Following Maignan as well as Matten & Crane, I have regarded corporate citizenship(CC) in a broad sense which emphasizes the role of a corporation in administering individual citizenship rights that distinguished it from corporate social responsibility(CSR). Such a definition reframes the citizenship by acknowledging that the corporation administers certain aspects of citizenship for other constituencies. These include traditional stakeholders, such as employees, customers, or shareholders, along with wider constituencies with no direct transactional relationship to the selected organization.

Corporate governance (CG) is based on principles of transparency, accountability, responsibility and fairness to stakeholders. The relationship between CC and CG along with corporate culture is questioned with a multi-stakeholder perspective in this paper.

Building upon prior studies on corporate culture and citizenship, I aim at showing the perception of employees in a developing country framework empirically. My assumption is that an effective human resource management that enables and cascades down corporate values and priorities is presumed to be a precondition for the alighnment of employees` attitudes with corporate codes of conduct. In other words, CC as well as CG need to start within workplace and then extend to marketplace and consequently to the community.

Keywords: Corporate Governance, Corporate Citizenship, Stakeholders, Accountability.

1. INTRODUCTION:

"If the confidence of public in the integrity of accountants' reports is shaken, their value is gone. To preserve the integrity of his reports, the accountant must insist upon absolute independence of judgment and action. The necessity of preserving this position of independence indicates certain standards of conduct."

(Arthur Andersen, 1932-cited in A. Toffler, 2003).

While corporate governance is an all embracing concept including strategy and performance of the organization along with managerial control, transparency and accountability, most research is about the visible tangible aspects. Effective business processes and strategies often result in higher business performance. Yet, competent behavior is the enabler that makes both strategy and process work. Effective performance demands appropriately effective behavior and priorities. In other words, effective

organizational change and corporate governance certainly requires effective change in corporate culture and values. That is rather difficult to do since understanding, observing patterns of behavior and measuring values are both challenging issues. Still, `good` corporate governance and corporate citizenship may only be achieved if strategic policies as well as processes at work are in line with the codes of conduct and values at work. Otherwise, improvements or implementations are either incomplete or unsustained due to misalignment of values of human resources, at managerial or non-managerial positions. For instance, without openness and transparency to stakeholders, meaningful constructive feedback, accountability or any kind of evaluation would not be possible.

Corporate scandals, like the alleged managerial greed and accounting indecency at Enron and Anderson, have forced corporate governance practices into the spotlight, illustrating the fundamental role they play in any economy. Yet, does corporate governance along with rights and duties converge or diverge among countries? The proponents of the globalization thesis argue that cross-national patterns of corporate governance will converge on either the Anglo-Saxon shareholder-centered model, or some hybrid between the conventional owner or shareholder model and stakeholder models typically found in the continental Europe (Crane & Matten, 2005).

The shareholder-centered model used in America includes more dispersed ownership, strong legal protection for shareholders and indifference to other stakeholders. The hybrid model combines features from both the shareholder and stakeholder models, defined by a less clear separation between dispersed ownership and managerial control. In other words, stakeholders have more influence over the operation of the company. Turkish corporations just like French companies are often criticized for a governance approach that involves an intricate network of public agencies, large firms and banks. Is globalization more about leveraging differences in an increasingly borderless world or is it about convergent codes of conduct. There is an important connection between corporate governance, the competitive strategy of firms and its sustainability (Bay & Küskü, 2006).

Recently, strategic human resource management includes both alignment with business strategy and performance as well as managerial role and internal marketing. Human Resource Management is portrayed in the role of reacting to a pre-conceived strategy. In other words, the human resources are selected, appraised, rewarded and developed only to produce performance which produces a set of 'needed role behaviours' with respect to corporate codes of conduct (Schuler and Jackson, 1987).

In this study I have explored the differences between organizational culture dimensions across different organizations at the corporate level along with the individual values and attitudes on corporate citizenship in one selected company at the individual employee level. After presenting the theoretical framework, an empirical analysis is made by employing two questionnaires. One is about corporate culture and the other is about corporate citizenship from HRM standpoint. The question whether there are any cultural differences between multinational versus local/ national organizations or not is inquired on the surface in the first comparative part. What are the significant gaps between the

values of "Turkish employees" and what is the role of HRM with respect to corporate citizenship are the main research questions in the case study. .

1.1 Organizational Culture

Organizational culture is "powerful, latent, and often unconscious set of forces that determine both individual and collective behavior that determine strategy, goals and modes of operating" (Cameron, 1999). People tend to interact with each other through their choices and decisions. If one can understand the pattern of decision making of the individuals and the organization, then the true goals of the organization can be made clear. This is a powerful concept for allowing organizations to become more effective. Prior research indicates that culture plays at least four important roles in organizations:

1. Culture forms a collective identity that helps its members associate themselves with their organization's policies and mission, and feel themselves a part of it
2. Organizational culture prescribes norms of acceptable and unacceptable behavior, making it clear for employees what they should say or do in a given situation
3. These norms help employees work together to meet customers' needs and respond to external pressures
4. Culture provides structure and control without relying on an authoritative management style that can lessen motivation and creativity. I will examine only Geert Hofstede 's constructs for the sake of brevity here. Hofstede conceived culture as a construct, which manifests itself in an organization as a result of the organization's location within a particular society. On the basis of an extensive analysis of 88,000 responses to a questionnaire survey of IBM employees in 66 countries, Hofstede argued that there are five discrete dimensions of culture:

- **Power Distance** focuses on the degree of equality, or inequality, between people in the country's society. A High Power Distance ranking indicates that inequalities of power and wealth have been allowed to grow within the society. These societies are more likely to follow a caste system that does not allow significant upward mobility of its citizens. A Low Power Distance ranking indicates the society de-emphasizes the differences between citizen's power and wealth.

- **Individualism** focuses on the degree the society reinforces individual or collective, achievement and interpersonal relationships. A High Individualism ranking indicates that individuality and individual rights are paramount within the society. Individuals in these societies may tend to form a larger number of looser relationships. A Low Individualism ranking typifies societies of a more collectivist nature with close ties between individuals.

- **Masculinity** focuses on the degree the society reinforces, or does not reinforce, the traditional masculine work role model of male achievement, control, and power. A High Masculinity ranking indicates the country experiences a high degree of gender differentiation. In these cultures, males dominate a significant portion of the society and power structure, with females being controlled by male domination. A Low Masculinity ranking indicates the country has a low level of differentiation and discrimination between genders.

- **Uncertainty Avoidance** focuses on the degree the society reinforces, or does not reinforce, uncertainty and ambiguity within the society. A High Uncertainty Avoidance ranking indicates the country has a high level of uncertainty and

ambiguity. This is reflected in a high concern for rules, regulations, controls, and issues with career security. A Low Uncertainty Avoidance ranking indicates the country has a low level of ambiguity and uncertainty. This is reflected in a society that more readily accepts change and takes more and greater risks (See the Annex1 for a schematic table of Hofstedte).

- **Long-Term Orientation** was added after conducting an additional international study using a survey instrument developed with Chinese employees and managers. Long-Term Orientation focuses on the degree the society embraces, or does not embrace, long-term devotion to traditional, forward thinking values. High Long-Term Orientation ranking indicates the country prescribes to the values of long-term commitments and respect for tradition. A Low Long-Term Orientation ranking indicates the country does not reinforce the concept of long-term, traditional orientation. In this culture, change can occur more rapidly as long-term traditions and commitments do not become impediments to change (Taylor, 2002).

1.2. Conceptual Framework For Corporate Citizenship and Corporate Reporting

"And does not ... the same hold for today's progressive computerization of our everyday lives in the course of which the subject is also more "mediatized" imperceptibly stripped of his power, under the false guise of its increase?"
-- Slavoj Zizek, 2005.

According to Zizek (2009: 15), market and social responsibility may be reunited for mutual benefit. As Thomas Friedman states bluntly: "Nobody has to be vile in order to do business; collaboration and participation of employees, dialogue with customers, respect for the environment, transparency of deals, are nowadays the key to success." Today`s capitalism thrives on reforms and charity. It cannot reproduce itself on its own. Sustainability of the system depends on social and environmental responsibility. However, maintaning the balance between freedoms and regulations, rights and responsibilities, free access and charged services, quality and quantity along with compliance and innovation are the fundamental issues (Zizek, 2009: 16-20).

After employees as the most significant internal stakeholder and the internal customer come consumers. Consumers are clearly one of the most important external stakeholders for any organization, since they are also the external customers. Further, without the support of customers of some sort, such as through the demand for or purchase of goods and services, most organizations would unlikely survive for very long. (Crane & Matten, 2004).Therefore the role of the external and internal customers in shaping the social and environmental impact of corporations become evermore critical. Employees' support of corporate citizenship is also important as Maignan & Ferrell (2001) point out. Moreover, corporate citizenship is likely to be acknowledged by businesses as a worthwhile investment if its activities clearly supported by consumers through their evaluation of purchasing alternatives. Based on a survey of managers (Maignan & Ferrell & Hult,1999) establish a positive relationship between proactive citizenship and customer loyalty. Dimensions of corporate citizenship and types of initiatives generate consumer awareness.

Because of the interdependence between corporate and consumer citizenship, businesses could learn about the most desirable means of communicating corporate citizenship from inside out-starting at the workplace. According to Maignan and Ferrell (2001) there are two dimensions of corporate citizenship communication: intensity and trust in the source – both of them are likely to influence consumers' evaluations of corporate citizenship and impact on his/her attitudes and behaviors. One could assume that up to a certain point, the more consumers are reminded of the corporate citizenship of a given firm, the more likely they are to integrate these initiatives in their purchasing decisions. However, when corporate citizenship is promoted heavily, consumers may perceive that it is mainly used as a promotional appeal, and may become suspicious about the intent of the firm.

This reasoning entails that consumer's trust in the source of the corporate citizenship communications is also likely to affect the relationship between evaluations of corporate citizenship and consumer behavior. Information regarding the activities undertaken by an organization to meet one or several of its social responsibilities may influence consumer decisions only if individuals judge this information as objective and trustworthy. According to Willmott (2003) corporate citizenship (as well as transparency and accountability, to a lesser extent, marketing communications activity) help to increase trust in the company. Lately, the impact of corporate citizenship is beginning to be regarded as community issues such as human rights and labor practices to health care and the environment. Corporations have started to organize their community and consumer involvement activities to attain the most strategic benefit and competitive advantage to the firm in the long term by leveraging on corporate citizenship.

Aras & Crowther (2009) have regarded corparate governance as the ultimate goal of sustainable excellence and found out that most firms at least complied with codes and CSR policies, if not with triple-bottom line and other actions tto be taken. In their theoretical model, the first five stages of development starting from window-dressing to sustainability reporting, they suggest that only internal stakeholder engagement is possible. For external stakeholder engagement and sustainability excellence, corporate governance with its four tenets (transparency, accountability, responsivenes and fairness) that balances rights with responsibilities have to be enhanced.

Aras & Crowther have employed content analysis of annual reports of 40 companies from ISE 100 and evaluated with a comprehensive checklist of sustainability measures on four themes on culture and employee, societal influence, environment and finance. They have found that all of them have emphasized sustainability and culture-employee more than societal influence and environment metrics. While the hypotheses investigating the relationship between company size and sustainability have been accepted, the relation between financial performance and sustainability has been rejected (Ibid, 2009). In the following section I will look into the workplace dimensions of corporate culture and citizenship rather than corporate governance since simultaneous development of all aspects and activities seem to be unlikely particularly within a developing country framework.

2. METHODOLOGY

Despite the fact that there is no single, commonly agreed definition, indicators and metrics of Corporate Citizenship (CC), in this study I tried to develop a tool based on the Maignan`s (2005) CC definition for the evaluation of corporate citizenship activities in the foreign companies. Combining corporate social responsibility and stakeholder management theory, Maignen defines it as the extent to which businesses assume the economic, legal, ethical and discretionary responsibilities imposed on them by their various stakeholders including employees, shareholders, business partners and suppliers, customers, competitors, public authorities and NGOs representing local communities, environment.

I have first conducted in-depth interviews with top and middle managers to determine the CC practices and codes of conduct. **Table 1** in the Appendix presents the 12 elements of CC as the sources of guidance and checklist used in the research. Some corporate citizenship elements are established from CSR indicators (Welford; 2005), some of them selected through consideration of many voluntary or regulatory international, regional or local standards, codes of conducts, initiatives, declarations and conventions which represent the source and further information about each element and they are provided in the second column.

By and large, elements of employee rights within the company's own operations are all commonly found as policies in the selected multinational firm. The policies about the protection of human rights within the company's own operations, prevention on child labor and forced labor in the workplace is found important, while policies on profit-sharing and share ownership schemes are not introduced in the host country yet. The interviewed managers mentioned policies on non-discrimination in the workplace and responsible recruitment practices and equal opportunities statements and implementation plans consisting equal pay and career prospects for women. Yet, the employees are predominantly male. The rate about working standards like statement on normal working hours, maximum overtime and fair wage structures is also clear. Staff development, in-house education and vocational training, lifelong learning, empowerment of employees, better information flow throughout the company is rather high.

When it comes to an examination of transparency and accountability there are written policies concerning e.g. human rights enforcement like forced child labor. Probing more on corporate governance demands another research. Although policies and procedures concerning codes of conduct (including bribery and corruption) along with core competencies of employees and relevant training programs are highlighted and training programs to promote corporate citizenship has commenced during orientation, still there seems to be some training needs still.

Most of the policies concerning employee rights including profit-sharing schemes are adequately implemented. Most of these policies are required by Turkish Labor Law. Still,

awareness of OECD Guidelines, ILO convention, EU Green Paper as sources of guiding principles was relatively higher than anticipated, probably due to the transformation process (See the Appendix for **Table 2**). How do economic, legal ,ethical and discretionary citizenship issues affect employee's overall evaluation of the company's CC is the major research question. Thus, I have attempted to examine whether the communication process of corporate citizenship is successful or not in this particular multinational company that have complied with the main checklists during our interview.

I have employed interviews for both checking corporate obligations, codes of conduct and core competencies in this selected multinational company. Then, I conducted a survey of 30 questions based on the issues delineated in table 3 below to analyze the citizenship behavior of employees and managers with a total response of 150. I have employed Friedman and Mann-Whitney-U tests to determine the gaps, if there are any and then I tried to see the relationships by Chi Square tests which may all be seen in **Table 4** of the annex. Except for some striking differences between managers and employees` attitudes, neither gaps nor relationships were surprising. The differences were mild and promotion based on fair performance criteria and participation of employees in decision-making are found to be significantly related to employee attitudes on both commitment and corporate citizenship.

TABLE 3: Organization & Employee Relations (Human Resource Management from a Stakeholder and Ethical Standpoint)

EMPLOYEE RIGHTS AS STAKEHOLDERS
Right to Freedom from Discrimination (e.g., equal opportunites, reverse discrimination)
Right to Privacy (e.g.,work-life balance, data protection and electronic privacy)
Right to Due Process (e.g., promotion, firing)
Right to Participation (e.g., decision process)
Right to Safe & Healthy Working Conditions
Right to Fair Wages (e.g., appropriate pay)
Right to Freedom of Conscience & Speech
Right to Work(e.g., fair treatment in the interview or job security)
EMPLOYEE DUTIES
Duty to Comply with the Labor Contract
Duty to Comply with the Law
Duty to respect the Employer's Property

In the comparative part of the research, I have employed another questionnaire on corporate culture. The survey questions provide information about the current organizational culture and a guiding framework within which to describe the present and plan for the future. The questionnaire is a 5 scale Likert format questionnaire and it has 100 questions.

The Sample:

Two different questionnaires have been used for measuring Corporate Culture and. Corporate Citizenship. The first survey was administered to 150 employees in five large-scale organizations that are selected by convenience sample. Five companies voluntarily participated in this research. Three out of these firms are multinational and the other two are Turkish companies. All of the firms are either a part of a big holding company or a part of a large conglomerate. The first sample consisted of 150 participating employees. About 30 people have been selected for each of the five companies as a representative random sample. Their age, and job type that they are working in are delineated below in the two pie charts:

The job type category has 17 clusters. In the table below, the participants' job types' clusters are given. There were five more clusters which did not match with any participants which were graduate trainee, call center operative, semi-skilled and routine work, non paid job / volunteer, and student. The gender distribution is rather skewed since 89% were male in the sample.

3. FINDINGS:

In the research, two companies were multinational and three of them were Turkish companies. One-way ANOVA technique is used for determining the differences corporate culture dimensions between multinational and Turkish companies.

Table 4: The Significance in the Means of Corporate Culture Dimensions

ANOVA Table 4:		Sum of Squares	Df	Mean Square	F	Sig.
1. RESULT ORIENTATION	Between Groups	234,090	1	234,090	17,699	,000
	Within Groups	1957,483	148	13,226		
	Total	2191,573	149			
2. QUALITY ORIENTATION	Between Groups	448,028	1	448,028	18,300	,000
	Within Groups	3623,472	148	24,483		
	Total	4071,500	149			
3.INCENTIVES FOR CREATIVITY & INNOVATION	Between Groups	118,810	1	118,810	7,663	,006
	Within Groups	2294,583	148	15,504		
	Total	2413,393	149			
4. CUSTOMER ORIENTATION	Between Groups	127,690	1	127,690	6,200	,014
	Within Groups	3048,183	148	20,596		
	Total	3175,873	149			
5. LEARNING & CAREER DEVELOPMENT	Between Groups	153,760	1	153,760	6,798	,010
	Within Groups	3347,333	148	22,617		
	Total	3501,093	149			
6. COMPLIANCE & DISCIPLINARY PRACTICES	Between Groups	220,028	1	220,028	10,046	,002
	Within Groups	3241,472	148	21,902		
	Total	3461,500	149			
7. ON TIME DECISION-MAKING	Between Groups	151,290	1	151,290	10,065	,002
	Within Groups	2224,583	148	15,031		
	Total	2375,873	149			
8. DIVERSITY, EQUAL OPPORTUNITIES & CHANGE	Between Groups	70,560	1	70,560	4,746	,031
	Within Groups	2200,400	148	14,868		

		Total	2270,960	149			
9. CSR –CC (SOCIAL & ENVIRONMENT)	Between Groups	142,404	1	142,404	8,913	,003
	Within Groups	2364,589	148	15,977		
	Total	2506,993	149			
10. INTERNAL MARKETING COMMUNICATION	Between Groups	190,440	1	190,440	10,854	,001
	Within Groups	2596,733	148	17,545		
	Total	2787,173	149			
11. EMPLOYEES` AWARENESS (GOALS, CODES & CULTURE)	Between Groups	165,551	1	165,551	7,491	,007
	Within Groups	3270,722	148	22,099		
	Total	3436,273	149			

P.S: (The reliability of all items is above .75)

The differences between multinational and Turkish companies based on the corporate culture dimensions are: the Concern for Results, Career Development and timely decision-making is Turkish companies. In addition to this, Decision-making in Turkish companies is higher than multinational companies. The descriptive statistics (means) also have shown that the corporate items are generally higher than the levels of individual values in Turkish employees.

4. CONCLUDING REMARKS:

"Many people know the price of things, few the value; for the price is about the visible cost and the value is about the intangibles that are hidden."
--Oscar Wilde.

By and large, those who oppose this universalistic approach and its application to developing countries often start from a point of describing the essential differences and assumptions between management in the West and in developing countries. These usually centre around essential cultural differences. Jaeger (1990) in drawing on Hofstede's (1980) work on cultural differences identifies the other cultures (of developing countries) as being characterised by high collectivism, high power distance, femininity, low uncertainty avoidance, and associative/contextual thinking. These are the binary opposites of cultures in developed countries against which management theories operate. Examples of these `biased` conceptual elements are:

–   a fatalistic approach to life. Hence goal setting, planning and budgeting are not valued and if carried out are hesitant and vague;

C			**Source of Guidance**
H	APPENDIX		International standards, codes
E	TABLE 2		of conducts , initiatives,

- a past time orientation. Hence planning is an extension of the past, decisions are based on precedent. Low premium on initiative;
- a 'being' orientation. Hence decisions based on emotions and feelings;
- autocratic authority relationships. Hence low risk taking, status not performance crucial in setting rewards.

This study has various limitations and calls for future studies. First, only corporate culture questionnaire is comparative the otheri\ is a case study. Second, the data are collected at one point in time and among five companies, which limit the causal inferences that one can draw. and generalizations that one may make. Future research might benefit by collecting comparative and longitudinal data. Despite the limitations, our study enhances our understanding of corporate culture and citizenship attitudes and behaviors.

Overall, the results suggest the importance of individual values and perceptions as well as pattern of interactions among colleagues along with casecaded codes of conduct at work. Additional research in this area seems critical to advancing our understanding of the relation between corporate governance, culture and citizenship behavior. I have just attempted to make a first cut assessment of the perceptions of employees on CC as the main internal stakeholder. The next step demands researchers to analyze the outcome of employee perceptions and attitudes on the company, its products and services along with customer perceptions. That way, the interactive relation between a company's reputation and stakeholders' perceptions about an organization's ability to enhance CC as a value creation and leverage for difference may be examined.

Similar to our findings, `the transferability debate` in strategic human resource management confirms that the employment relationships in developing countries will be subject to similar and perhaps exacerbated contradictory value shifts and cultural tendencies as are experienced in developed countries such as the gap between espoused human resource policies (usually based on Western norms of 'best practice') and actual practices is large. Hence, the employment relationship along with the human resource management displays a distinct 'dualism' - the formal contact on the one hand and the informal, culture infused, job behaviour on the other. Perhaps, we will reach a consensus on the basics of corporate governance when these two sides of the coin are aligned and integrated. As Zizek has suggested, new balances have to be found concerning dilemmas between freedom and regulation (effectiveness) , rights and responsibilities (equity) and ethics versus efficiency issues in the corporate market system.

CK	Our company operating in Turkey has written policies, procedures and practices in the area stated below	declarations and conventions principles ext.
Li	**INTERNAL ASPECTS**	
	A) Employee	
1	The protection of human rights within the company's own operations	UN Universal Declaration of Human Rights, UN Global Compact, SA 8000,Turkish law
2	Prevention on child labor and forced labor in the workplace	UN Universal Declaration of Human Rights, SA 8000, CEPA Turkish law
3	Profit-sharing and share ownership schemes	EU Green Paper
4	Non-discrimination in the workplace & during recruitment practices, etc.	ILO Convention, SA 8000 Global Compact, CEPAA, Turkish law
5	Equal opportunities statements and implementation plans equal pay and career prospects for women, etc.	ILO Convention 100,110 and 111, SA 8000, CEPAA Turkish law
6	Statement on normal working hours, maximum overtime and fair wage structures	ILO Conventions 1,30 and 47, Global Compact,SA 8000 CEPAA, Turkish law
7	The right of freedom of association, collective bargaining and complaints procedures	ILO Convention 98 OECD Guidelines CEPAA, Turkish law
8	Staff development, in-house education and vocational training, lifelong learning, empowerment of employees, better information flow throughout the company	UNESCO Project on Technical and Vocational Education (UNEVOC) EU Green Paper, OECD Guidelines
9	Health and safety at work beyond the legislation	European Agency for Safety and Health at Work
	B) Investors	
10	Maximizing shareholder value , focus on returns firstly	Classical Corporate Governance
		Global Reporting Initiative, Corporate Governance, SVN's Standards
12	Commitment to take place on responsible investment (SRI)	IMKB Corporate Governance Index, Dow Jones' sustainability index, FTSE4Good, KLD social

Appendix Table 5

Q	Chi Sq.	Hyp.		Hyp.	Chi Sq.	Hyp.
S1	0.49	ho accept	0.54	ho accept	0.23	ho accept
S2	0.00	ho reject	0.52	ho accept	0.48	ho accept
S3	0.16	ho accept	0.98	ho accept	0.86	ho accept
S4	0.47	ho accept	0.89	ho accept	0.47	ho accept
S5	0.12	ho accept	0.90	ho accept	0.33	ho accept
S6	0.03	ho reject	0.12	ho accept	0.39	ho accept
S7	0.29	ho accept	0.86	ho accept	0.17	ho accept
S8	0.63	ho accept	0.67	ho accept	0.97	ho accept
S9	0.00	ho reject	0.01	ho reject	0.12	ho accept
S10	0.00	ho reject	0.22	ho accept	0.39	ho accept
S11	0.66	ho accept	0.65	ho accept	0.58	ho accept
S12	0.06	ho accept	0.25	ho accept	0.81	ho accept
S13	0.44	ho accept	0.54	ho accept	0.58	ho accept
S14	0.00	ho reject	0.99	ho accept	0.83	ho accept
S15	0.12	ho accept	0.81	ho accept	0.31	ho accept
S16	0.22	ho accept	0.65	ho accept	0.001	ho reject
S17	0.03	ho reject	0.35	ho accept	0.22	ho accept
S18	0.00	ho reject	0.95	ho accept	0.003	ho reject
S19	0.00	ho reject	0.25	ho accept	0.79	ho accept
S20	0.58	ho accept	0.82	ho accept	0.75	ho accept
S21	0.82	ho accept	0.38	ho accept	0.90	ho accept
S22	0.00	ho reject	0.006	ho reject	0.81	ho accept
S23	0.00	ho reject	0.00	ho reject	0.00	ho reject
S24	0.00	ho reject	0.00	ho reject	0.00	ho reject
S25	0.00	ho reject	0.00	ho reject	0.00	ho reject
S26	0.00	ho reject	0.00	ho reject	0.00	ho reject
S27	0.00	ho reject	0.00	ho reject	0.00	ho reject
S28	0.00	ho reject	0.00	ho reject	0.00	ho reject
S29	0.008	ho reject	0.00	ho reject	0.00	ho reject

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THE IMPACT OF CORPORATE GOVERNANCE PRACTICES AND PERFORMANCE MEASUREMENT SYSTEMS ON FIRM VALUE IN EMERGING MARKETS
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Abstract

The central theme that undergirds this proposed research stems from the theoretical framework of a management control systems (MCS) operating as a package. Two forms of control will be examined in combination: administrative (corporate governance practices) and cybernetic (value-based performance measures); under the specific setting of listed companies from the emerging markets; namely Singapore, Malaysia, Indonesia, Philippines and Thailand. The purpose of this research is firstly, to investigate the influence of corporate governance mechanism on management's decision to undertake value-based performance measures. Secondly, it seeks to analyse this effect on firm value. In particular, this research will examine how firm value will be affected under two circumstances: when adhering to certain corporate governance practices and when value-based performance measures are being implemented. This research aims to contribute towards building a more coherent theory of management control systems as a package and to gain new insights as to how corporate governance and management accounting practices unfold differently across different countries, especially in less developed economies.

Table of Contents

Chapter 1: Introduction

1.1 Background and rationale of research

The last two decades have witnessed vast transformation in organizations worldwide, where intense competition and globalization of markets have forced organizations to re-define their strategies, structures and processes. This has led to increases in mergers and acquisition, and has encouraged organizations to secure competitive advantage through innovations in product, services, processes and information technologies.

The world of management accounting research has also changed as a consequence of the growth of international business, global competition, privatization, and deregulation. These changes have special implications especially for transitional economies such as Russia, China, Eastern Europe, Vietnam; and the newly industrialized or emerging economies such as India, Brazil, South Korea, Malaysia, Thailand, Philippines, Indonesia and Singapore[314]. These 'Less Developed Countries' (LDCs) are gaining increased attention from policy makers and academics across various discipline because of their growing dependence on globalization and international trade reforms. Accounting change is an essential component of market-based development policies promoted by international agencies. Of equal importance is the provision of relevant, timely and accurate internal management accounting information is equally important.

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[314] Emerging economies are defined as "low-income, rapid-growth countries using economic liberalization as their primary engine of growth" (Hoskisson, Eden, Lau, & Wright, 2000), p.249. The International Finance Corporation (IFC 1999) identifies 51 rapid-growing developing countries as Asia, Latin America, Africa and the Middle-East as emerging economies. [See Hoskisson et al. (2000) for a list of emerging and transitional economies].

Management accounting assists executives in their efforts to improve the economic performance of the firm. However, it can be argued that the current continuous challenge is the alignment of 'local' business process with 'global' corporate strategies. Frequent failures have cast doubt on whether Western management accounting practices can be effective especially without adjustment to local circumstances. Thus there is a profound need to further the development of management accounting in these LDCs. Although work in this area is growing, it is still at its infancy. (Abdallah, 1992; Haldma & Lääts, 2002; Jusoh & Parnell, 2008; Williams & Seaman, 2002).

Many newly-industrialised or emerging economies such as Malaysia, Thailand and Korea have high technology-based manufacturing activities while in Singapore or Hong Kong, sophisticated financial and business services prevails. The traditional cost/management accounting system which evolved since the 1950s was mainly based on concepts of standard costing, flexible budgeting, Cost-Volume-Profit analysis, variance analysis and responsibility accounting (Ittner & Larcker, 2001; Jaruga & Ho, 2002). However, these traditional management accounting practices has been criticized as limiting a company's progress towards world-class manufacturing performance as the internal orientation of accounting information is too narrow for strategic decision making (Jaruga & Ho, 2002).

Most firms (except for large banks and large firms with foreign capital) in transitional and emerging economies are still rather conservative in using advanced and new 'value-based' management accounting methods such as

activity-based costing, the balanced scorecard, strategic accounting and control systems and economic value performance measures (Ittner & Larcker, 2001; Jaruga & Ho, 2002). Moreover, due to their unique environments, alternative approaches to Western management accounting methods are practiced in various emerging economies (Abdallah, 1992; Skousen & Yang, 1988). Therefore, firms in transitional and emerging economies have realized that they need effective management accounting techniques to provide management with relevant, timely and accurate information to improve the economic performance of the firm. However, there are scant findings published on the progress that firms in these economies have made toward this goal.

There have been several calls in the last few years for both theoretical and empirical contributions to the debate on how management accounting in transitional and emerging economies should develop in response to various globalization pressures and how management accounting can facilitate change (Hopper, Tsamenyi, Uddin, & Wickramasinghe, 2009). Despite this, the road to management accounting reform is rocky and long. Most transitional and emerging economies are still embarking on their management accounting reform process. Thus more studies on these economies can further shed light on the effective diffusion of management accounting practices under different social and economic systems. The first objective of this research is to fulfill this need by undertaking investigation of management accounting practices within the emerging markets.

Recently, there have also been numerous calls to investigate corporate governance within the context of management accounting literature (Bhimani, 2009) and corporate governance within emerging markets (Young, Peng, Ahlstrom, Bruton, & Jiang, 2008). Risk management and corporate governance issues are emerging concerns as evidence by their significant influence on public policy debates regarding the control of organisations. The notion of risk and corporate governance has extensively influenced and defined many aspects of organisational and managerial endeavours, including management accounting activities (Bhimani, 2009; Seal, 2006).

The Chartered Institute of Management Accountants (CIMA) (2005) also recognises the frictions between governance and value creation; and between conformance and performance when they coined the term "Enterprise Governance" to describe both corporate governance and business governance aspects of organizations. The enterprise governance framework note that '(T)here is a gulf between the corporate governance agenda and the "business success" literature and a framework is required to bring the two together' (IFAC 2004, p.9). CIMA clearly distinguishes the external and internal aspects of corporate governance where the external dimensions focuses on the role of boards and the internal dimensions on the value drivers. The framework emphasizes the need to balance the conformance and performance aspects of the business in order to generate long tern sustainable shareholder value.

As such it is inept to consider management control as being distinctly separate and independent from corporate governance concerns (Bhimani, 2009;

Malmi & Brown, 2008). The control process is in itself defined by the intent to monitor the degree and alignment between organizational activities and desirable managerial outcomes. Bhimani (2009) argue that it is crucial and essential for firms to make the deployment of utilization of controls that are regarded as effective, transparent and visible. He suggests that this makes management accounting, risk management and corporate governance increasingly intertwined and interdependent.

Calls for research in corporate governance within the emerging markets transpired from the realization of researchers that there is no single agency model that adequately depicts corporate governance in all national context (Rafael La Porta, Lopez-De-Silanes, Shleifer, & Vishny, 1997, 1998; Lubatkin, Lane, Collin, & Very, 2007; Young et al., 2008). In developed economies, because ownership and control are often separated and legal mechanisms protect owners' interests, the traditional principal-agent conflicts between owners (principal) and managers (agents) have received the majority of research in corporate governance (M. Jensen & Meckling, 1976; Young et al., 2008). However, in emerging economies, the institutional context makes the enforcement of agency contracts more costly and problematic (Wright, Filatotchev, Hoskisson, & Peng, 2005). This results in concentrated ownership, coupled with an absence of effective external governance mechanisms normally prevailing in emerging economies, give rise to more frequent conflicts between controlling shareholders and minority shareholders (Dharwadkar, George, & Brandes, 2000; Morck, Wolfenzon, & Yeung, 2005). This has led to the

development of a new perspective on corporate governance, which focuses on the conflicts between different sets of principals in the firm, known as the 'principal-principal' model of corporate governance, which centers on conflicts between the controlling and minority shareholders (Young et al., 2008). A comprehension of such relationships is indicative of the wider impacts of extra-organisational factors on internal control and governance structures that are common in emerging economies.

The relationships between management accounting, corporate governance and risk management have been addressed only to a minimum extent in the academic literature (Bhimani, 2009). Thus, the second objective of this research is to investigate corporate governance practices within the emerging markets. The purpose of this study is to investigate the relationship between corporate governance and management accounting practices within the emerging markets.

1.2   Theoretical Framework: Management Control Systems (MCS) as a package

The theoretical rationale for this research draws from the idea that management control systems operate as a package within organizations. The concept of organization having a control package is not new, having been introduced to the management accounting literature by early contingency theorists (Otley, 1980). Control refers to those practices intended to align individual's activities with organisational goals (Abernethy & Chua, 1996; Flamholtz, Das, & Tsui, 1985; Otley, 1980). A management control systems

(MCS) package is generally conceptualized as a collection or set of control and control systems (Malmi & Brown, 2008). Although the concept of MCS operating as a package has existed for over 3 decades, explicit research and theorizing on this phenomenon is still scarce.

Malmi and Brown (2008) suggest a number of reasons as to why studying MCS as a package is important. First, the functioning of outcomes of any new management control system element in any given organization is likely to be related to the functioning of an existing management control package. Thus, MCS do not operate in isolation. Past researchers have warned that studying MSC in isolation will lead to inaccurate conclusions because outcomes are likely to be related to the extent a new system is coupled to existing systems (Chenhall, 2003; Dent, 1990; Fisher, 1998).

Second, prior accounting research has substantially concentrated on studying recent developments in practice, including Activity Based Costing/Management, Balanced Scorecard, Value Based Measures/Management and Target Costing – aiming to explain their emergence, adoption, functioning and outcomes. However, much of this extant research focuses on only one system at a time, thereby largely ignoring the wider control context or package of which they are a part. Importantly, such omissions can obscure the derived conclusions on the functioning and associated benefits of such innovations.

Third, there is still limited understanding of the relative effectiveness of various forms of control. In particular, the question of how might these various

control (e.g. administrative, cybernetic, cultural) complement or substitute each other in a range of circumstances or not, remains an area warranted for further investigation.

Fourth, there is also a lack of understanding as to why and how various parts of a control package are used and emphasised in practice. The differences in emphasis in which they are contingent upon remain unanswered. More research focusing on accounting based (cybernetic) controls as a part of organizational control package is required to assist in developing a more coherent theory of management control systems. Such a theory would not only facilitate in explaining the causes and effects of individual controls and controls as a package, but also how control systems relate to each other, to firm activities and contingent factors. This proposed study aims to fill this gap.

This proposed study employs the conceptual typology of an MCS package adopted from Malmi & Brown (2008, p.291) as depicted in Figure 1 below:

Figure 1: Management Control Systems (MCS) Package

Cultural Controls					
Clans		Values		Symbols	
Planning		**Cybernetic Controls**			**Reward and compensation**
Long range Planning	Action Planning	Budgets	Financial Measurement Systems	Non-Financial Measurement Systems	Hybrid Measurement Systems
Administrative Controls					
Governance Structure		Organisation Structure		Policies and Procedures	

Source: (Malmi & Brown, 2008)

The motivation for this proposed study stems from the above conceptual typology of an MCS package as suggested by Malmi & Brown (2008). This

proposed study seeks to investigate the linkage and relationship between cybernetic control and administrative control (referring to Figure 1), within the emerging markets, namely 5 rapidly growing South East Asian countries: Singapore, Malaysia, Indonesia, Philippines and Thailand. The elements of cybernetic controls which will be examined are the financial and hybrid measurement systems which constitute what is termed 'value-based management', a widely recognized innovation of the 90s within the management accounting literature (Ittner & Larcker, 2001). Examples of financial performance measures are return on investment and economic value added (EVA). Hybrid performance measurement systems contain both financial and non-financial measures such as the Balanced Scorecard.

Under administrative controls, the element of governance structure will be examined. By combining the examination of both cybernetic and administrative control, this adheres to the suggestion of studying the phenomenon of MCS as a package in order to identify not only what is actually contained in a MCS package within the organization but also the potential linkages between systems which may reveal further missing and/or unnecessary elements. This will facilitate the building of a more coherent theory that will provide contribution to academics, practitioners and industry players in the business community.

Chapter 2: Statement of Problem and Research Questions

The idea of MCS operating as a package within specific settings motivates the following research problem for this study:

What is the effect on the value of companies from emerging markets when certain corporate governance practices are in place and when value-based performance measures (financial and hybrid) are implemented?

Consequently, this gives rise to the following research questions:

1) Does the corporate governance practices in countries from the emerging markets influence management to implement value-based performance measures (financial and hybrid)?

2) How does this impact the value of companies from the emerging markets?

2.1   Purpose of the research

The purpose of this research is firstly, to investigate the influence of corporate governance mechanism on managements' decision to undertake value-based performance measures (financial and hybrid). Secondly, it seeks to analyse this effect on firms' value. In particular, this study will examine how the firms' value will be affected under two circumstances: when adhering to certain corporate governance practices and when value-based measures (financial and hybrid) are being implemented by firms. Thirdly, this investigation will be conducted for a sample of firms from 5 emerging markets: Singapore, Malaysia, Indonesia, Philippines and Thailand, from the years 2000 to 2007, after the Asian financial crisis, but before the recent global financial meltdown that intensified

from 2008 onwards. This period was chosen because many of these countries from the emerging markets have gone through market liberalization after the Asian financial crisis.

Chapter 3: Literature Review and hypotheses development

3.1   Management Control System (MCS) as a package

According to Malmi and Brown (2008), the first hurdle to undertake the study of MCS as a package is defining what is meant by MCS. Numerous definitions and descriptions of MCS exists within the literature, some are different while others overlap (Abernethy & Chua, 1996; Anthony, 1965; Chenhall, 2003; Fisher, 1998; Flamholtz et al., 1985; Langfield-Smith, 1997; Merchant & Van der Stede, 2007; Ouchi, 1979). The lack of clarity, wide variation and inconsistencies in how MCS have been conceptualized has created a number of problems in MCS research in relation to the interpretation of research results and the design of MCS (Malmi & Brown, 2008; Zimmerman, 2001).

Zimmerman (2001) suggests that the distinction between decision making and control must be made, when determining what should constitute as MCS. This means that any accounting systems designed to support only decision-making at any level of the company, while leaving the use of those systems unmonitored should not be termed MCSs, but instead management accounting systems (MAS). However, those systems, practices, measures, rules and values and other activities put in place in order to direct employee behaviour should be called management controls. Consequently, any system or practice such as

balanced scorecard, governance structure or financial and non-financial performance measures can be categorized as a MCS (Malmi & Brown, 2008). Since in most organizations there are usually a number of MCS, the term 'package' is utilised[315]. As such, this proposed study conforms to the suggestion of Malmi & Brown (2008, p. 290) for the explicit definition of MCS, in which "management controls include all the devices and systems managers use to ensure that the behaviours and decisions of their employees are consistent with the organization's objectives and strategies but exclude pure decision-support system".

To date, MCS research has provided much information about the operation of many of the elements within MCS individually. However, currently very little is known about how these elements are actually configured as a package across organizations, although recent works by Sandelin (2008) and Kennedy and Widener (2008) have provided some insights on this phenomenon. Sandelin (2008) undertakes a case study to examine the operation of management control practices as a package in the context of a growth firm by focusing on cultural, personnel, action and results controls. He found that the form and functionality of an MCS package is influenced by internal consistency rather than contingent factors (Sandelin, 2008). Kennedy and Widener (2008) investigate the control framework that results from a lean manufacturing environment. They develop a theoretical framework that facilitates in

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[315] Merchant and Van der Stede (2007) suggests that the collection of control mechanisms should be called an MCS.

understanding control choices, accounting practices and organizational structure, associated with lean manufacturing (Kennedy & Widener, 2008).

A review of the existing literature suggests that it remains unclear as to whether there are particular configurations that systematically exist in specific settings. In particular, do specific types of cybernetic controls generally exists with specific types of administrative or cultural controls? As the environments within which organization exists are in a state of constant change, which of all the elements in the MCS package are the ones which have to fit the best, and which are less essential for maintaining control and gaining superior performance (Malmi & Brown, 2008)? By taking a broader approach to study MCS as a package in emerging markets, this proposed research aims to provide some answers and clues to the open questions above.

Currently, there is also very little theory that enables researchers to establish the relationships between the elements in a control package (Chenhall, 2003; Malmi & Brown, 2008). How the elements within a MCS package relate to each other remains unanswered. This study aims to shed light on the obvious question of whether the effectiveness of each of the control system under examination is dependent on the existing configuration of the package. For example, misalignments between performance measures and the organizational structure or governance structure may result in ineffective control. By examining all or some of the elements in the package and the relationships between them, a better understanding of the effectiveness of individual elements will be achieved.

3.2   Value-based performance measures

According to Ittner & Larcker (2001), the value-based management (VBM) approach signifies the evolution of management accounting research and practice after more than 4 decades. This approach emphasizes on value creation for the firm through the identification, measurement and management of drivers of customer value, organizational innovation and shareholder returns. This results in the establishment of a diverse set of 'new' management accounting techniques directed at promoting value creation such as the development of balanced scorecards as indicators of economic success and economic value measures that are purported to better reflect shareholder returns.

Over the last decade, much has been written about value-based management. Most of the extant literature relates to VBM-metrics and its relationship with share price, a measure that contributes to the creation of shareholder value (Athanassakos, 2007; Biddle, Bowen, & Wallace, 1997; Stewart, 1991). Another substantial strand of research focuses on the implementation of VBM and its effects on company level (Lovata & Costigan, 2002; Ryan & Trahan, 1999, 2007; J.S. Wallace, 1997). A third strand of research highlights the assumed conflict between shareholder and stakeholder view of the firm (M. C. Jensen, 2002; J. S. Wallace, 2003). Lastly, the concept of how VBM is applied in practice has also begun to receive attention (Claes, 2006; Malmi & Ikäheimo, 2003).

From a management accounting perspective, the main issue is not whether the value-based performance measurements, such as economic value

measures, are more highly correlated with stock returns than traditional accounting measures, but whether its usage towards internal decision-making, performance measurement and compensation purposes improves organizational performance (Ittner & Larcker, 1998). A further related issue is whether the performance implications of the value-based performance measures depend upon how the measures are used within the organization, for example in capital budgeting, goal setting, investor communication, business planning, compensation and financial management purposes. As such, this study aims to investigate the performance of the organization upon adoption of value-based performance measures and also how these measures are used within the organization. This will be able to provide some direction as to the long-term benefits from the adoption of such value-based performance measures.

3.3   Corporate Governance within the emerging markets

There is a growing expectation that corporate boards should be overseeing the quality of internal management and the strategic decisions and pursuits of their companies (Abdullah, 2004; Agrawal & Knoeber, 1996). How far the characteristics of corporate boards influence management control has not been subjected to extensive research, particularly the differentiating effects of foreign versus domestic board membership has received only scant attention so far (Choi & Hasan, 2005; Gulamhussen & Guerreiro, 2009; Oxelheim & Randøy, 2003). Gulamhussen & Guerreiro (2009) studied the influence of foreign equity and board membership on corporate strategy and internal cost management of

domestic banks in Portugal. Foreign equity and board membership affect managerial choices and hence, as corporate governance mechanisms, influence the strategic decisions, pursuits and cost control outcomes. They call for future extension of their study to test their main hypotheses in other markets that have undergone some liberalization. In particular, in markets experiencing increasing globalization of foreign element of corporate governance will be a fruitful area for future research. As such, this proposed study responds to this call by investigation within the 5 emerging markets from South East Asia: Singapore, Malaysia, Indonesia, Philippines and Thailand.

3.4 Hypotheses

Based on the review of past literature above, this proposed study will investigate the relationship between corporate governance and value-based performance measures (new management accounting techniques or innovations) within the specific setting of emerging markets. The impact of this on firm value will be explored.

The following hypotheses is developed:

H1: Higher foreign shareholder's equity holdings will lead to adoption of value-based performance measures.

H2: Higher composition of foreign outside board membership will lead to adoption of value-based performance measures

H3: Firms with low insider (management) ownership will lead to adoption of value-based performance measures.

H4: Firms with higher institutional ownership will lead to adoption of value-based performance measures.

H5: Adoption of value-based performance measures will lead to higher firm performance.

H5: Higher foreign shareholder's equity will lead to higher firm performance

H6: Higher composition of foreign outside board membership will lead to higher firm performance

H7: Firms with higher insider (management) ownership will lead to higher firm performance

H8: Firms with a higher institutional ownership will lead to higher firm performance

Chapter 4: Methodology

To test the hypotheses in this research, a sample of firms listed on the stock exchanges of the 5 countries from the emerging markets (Singapore, Malaysia, Indonesia, Philippines and Thailand) will be collected from Datastream and Bloomberg. The firm value will be measured by Tobin's Q, similar to past studies (Agrawal & Knoeber, 1996; R. La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 2002; Oxelheim & Randøy, 2003; Poletti Hughes, 2009).

Chapter 5: Conclusion – Implications and Significance of research

This PhD research will provide key implications and significance to practitioners, academics and industry players in the business community through the understanding of corporate governance practices in emerging markets and its influence on organisations' internal management decision-making and corporate strategy orientation. It will also shed light on how corporate governance mechanisms co-evolve with advanced management accounting techniques in emerging economies. Consequently, new insight will be gained on the progress of these emerging economies in light of global competition and advancement, relative to companies in developed markets, thereby contributing to the international business perspective.

Secondly, this research will uncover the characteristics of firms in emerging markets that are likely to adopt advanced performance measurement techniques. The role that foreign institutional investors play in emerging economies and their impact to the organizational performance will also be highlighted.

Finally, by taking a broader approach to study MCS as package, this will enable better theorizing of the actual impact of innovations, such as the value-based performance measures, and as a result, facilitate in developing better designs of MCS packages to benefit organisations worldwide.

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Session 6.1: Financial Reporting

EQUITY RECOGNITION
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ABSTRACT
It is important to note that the distinction between liabilities and equity is directly connected with the calculation of earnings. As income cannot result from an investment by or a distribution to an owner or from a change in the value of equity instrument, without a distinction between the claims of creditors and those of owners, measurement of income is not possible. To determine comprehensive income, not only the definition of equity but also recognition criteria and method of measurement have to be clarified. In this paper, to clarify the issues on equity recognitions, history of the accounting for stock subscription is explained, and then the accounting issues on equity recognition will be discussed from Japanese accounting environment.
                    Equity   Japan   Stock Subscriptions   Basic ownership approach

1. Introduction

It is important to note that the distinction between liabilities and equity is directly connected with the calculation of earnings. That relation between calculation of earnings and calculation of assets and liabilities or calculation of capital had been emphasized by Nakamura (1961) using following FIGURE. In the background for calculations of earnings and calculations of capital, there exist calculation of assets and liabilities.

FIGURE: Relation between calculation of earnings, capital, and assets and liabilities

Source: Nakamura (1961, p.13)

Currently, FASB and IASB are undertaking joint project *Financial Instruments with Characteristics of Equity* (formerly *Liabilities and Equity* project for FASB) [316]. It was

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[316] For FASB Project Updates:
http://www.fasb.org/project/fi_with_characteristics_of_equity.shtml
for IASB Projects:
http://www.iasb.org/Current+Projects/IASB+Projects/Liabilities+and+Equity/Liabilities+an

written in Discussion Memorandum published by FASB in 1990 that the most obvious effect of the distinction between liabilities and equity is on the enterprise's financial position (FASB 1990, par.64). But at the same time it was also pointed out that income cannot result from an investment by or a distribution to an owner or from a change in the value of equity instrument, without a distinction between the claims of creditors and those of owners, measurement of income is not possible (FASB 1990, pars.66-67). In Agenda Paper 11A in Financial Instruments with Characteristics of Equity project, it is also written that liability and equity definitions are intended both to determine which things are potentially recognizable and which recognized things can affect comprehensive income (IASB 2009, par.9).

To determine comprehensive income, not only the definition of equity but also recognition criteria and method of measurement have to be clarified. The accounting treatment might be different, even with the same definition of equity, if the different recognition criteria or method of measurement is applied. And the accounting treatment might be same, even with different definition of equity, if the different recognition criteria or method of measurement is applied. In this paper, to clarify the issues on equity recognitions, history of the accounting for stock subscription is explained, and then discuss about the accounting issues on equity recognition using Japanese materials.

2 Accounting For Stock Subscriptions

Not only the definition of equity instrument, but also the recognition and the measurement of equity instrument affects when the increase in equity will be recorded. When the value of stock options were measured by intrinsic value on the grant date, as for ordinary stock options with exercise price set at the grant date market price, even if those stock options were considered as equity instrument, and considered they should be recognized from that date, they will not be recorded because their value will be measured as zero[317].

On the other hand, even if stock options are excluded from the definition of equity instrument, still it might result in recording increase in equity when they are granted, if equity recognition takes place in very early stage of issuing stock. So it is necessary to discuss about equity recognition principle. Even for a simple equity instrument, there will be several steps before formally issued; first it has to be authorized, next subscribed, and then contribution has to be made, and finally stock certificate issued[318].

In Japan, Company Law (formerly Commercial Code) specified the date when the capital stock will increase as a result of issuing stock, there was little room for debate. It is the date of dead line when contribution to the company has to be made[319]. As Japanese Company Law do not allow installment for making contribution to the company, if the subscribers fail to pay the amount, those subscription will be cancelled[320]. So in

d+equity.htm
[317] This was the situation before IFRS 2.
[318] Company Law Article 117 allows company to issue stock certificate. But, in January 2009, stock certificates of the listed companies in Japan were abolished by the Act on Transfer of Bonds, Shares, Etc. So, as for listed Japanese companies, they do not issue stock certificates any more and transfer of shares no longer requires stock certificates.
[319] Japanese Company Law, Article 209.
[320] Japanese Company Law, Article 208.

Japan, when stocks are issued, they are all fully paid. But before the amendment of Japanese Commercial Code[321] in 1950, it was allowed to issue stock without fully paid[322]. At the beginning of twentieth century, equity recognition could take place at the point of subscription[323].

It is necessary to analyze the critical event for equity recognition when stocks are issued on installments. At the beginning of twentieth century, it was debatable whether the increase in capital should be recognized when the stocks were subscribed or not. Hatfield (1916, pp.153-155) pointed out that the practice for uncalled subscriptions was not uniform in the USA[324], and in UK excluded from the balance sheet, but in France and Germany, they were generally shown as an asset.

IFRSs do not specify the presentation of share subscription account in the statement of financial positions. According to Epstein & Jermakowicz (2008), most share subscriptions are presented as deduction to shareholders' equity, but it is also explained that they are sometimes treated as an asset.

In the USA, Rule 5-02.30 of the Regulation S-X, it is required to show the dollar amount of common shares subscribed but unissued, and show subscriptions receivable as deduction. According to EITF 85-1, even if the notes are received for contribution, the predominant practice is to offset those notes and stock in the equity section[325]. Because the uncertainty remains high for subscriptions receivable, equity recognition is postponed until the payment is actually made.

In UK, "Called up share capital not paid" will be presented among assets, and "Called up share capital" will be the amount of equity recognized[326]. So in UK, "call" will be the critical event for equity recognition[327]. However, if those called up share capital are

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[321] Japanese Commercial Code, Article 280-7 (1950 Amendment).

[322] Article 152 of Commercial Code established in 1890. See Ishikawa (2008).

[323] Dan (1914, pp.293-294) explains the accounting practice in UK, USA, and Japan, and supports that the stock subscription should be recognized as asset and the total amount of subscribed capital should be recorded.

[324] "Subscription to Stock" is included among assets in Bennett (1916, p.369). There seems to be two kinds of accounting practice existed, one of which were to record stock subscription as an asset, and the other to begin the record when the actual contribution was made. Those explanations about the accounting practice can be seen in Hatfield (1927, pp.174-179), Wildman & Powell (1928, pp.81-84), Sunley & Pinkerton (1931, pp.30, 33-34, 54-61). According to Couchman (1924, p.192), unpaid subscription maybe shown by the account "subscribers to capital stock" and deducted from the amount of stock subscribed in the balance sheet.

[325] However, in EITF 85-1, it is also stated that such notes may be recorded as an asset if collected in cash prior to issuance of the financial statements.

[326] The Large and Medium-sized Companies and Groups (Accounts and Reports) Regulations 2008 (http://www.opsi.gov.uk/si/si2008/uksi_20080410_en_1), Schedule 1 Companies Act Individual Accounts: Companies which are not Banking or Insurance Companies, Part 1 General Rules And Formats, Section B The Required Formats for Accounts, Balance sheet formats. However, the amount of allotted share capital and the amount of called up share capital which has been paid up must be shown separately.

[327] In the Format of the Balance Sheet in First Schedule for Companies Act in 1862, "3. If any Arrears of Calls, the Nature of the Arrear, and the Names of the Defaulters" was included among I. Capital.

actually paid in by the time the financial statements are published, there will be little difference between the US rule and the UK rule.

Most of the arguments against equity recognition at the subscription stage were those subscription receivables are not necessarily collectable. Even if they are called up, uncertainty of collecting the amount is so large that they should not be included among assets. But it could be argued in different way. As reporting entity has not received anything yet, from the view point of the reporting entity, until subscriber actually contributes something that the reporting entity could use, there is nothing to record at that time. If the latter reason is employed, in case of stock option, equity should be recognition when the service is received, not at the grant date.

3 FASB/IASB Project on Equity

FASB has been undertaking broad project on financial instruments since 1986. The Preliminary Views *Financial Instruments with Characteristics of Equity* has been issued as a part of the liabilities and equity project in November 2007. Based on the Memorandum of Understanding[328], IASB is undertaking Financial Instruments with Characteristics of Equity project and issued Discussion Paper in February 2008 that comprises Invitation to Comment and the FASB Preliminary Views document.

In Preliminary Views, the basic ownership approach is supported. Under the basic ownership approach, the most residual claim is classified as equity (par.16). By that definition, some perpetual instrument such as preferred stock will be classified as a liability (par.34), and derivatives on an issuer's basic ownership instruments such as a written call option on common stock will be classified as a liability (par.67).

In Preliminary Views, the ownership-settlement approach and Reassessed Expected Outcomes (ROE) approach are explained in appendix. The ownership-settlement approach classifies basic ownership instruments, other perpetual instruments, and indirect ownership instruments as equity (par. A1). The ROE approach uses an instrument's probability-weighted outcomes to separate and classify that instrument (B1).

In the Discussion Paper, summary and criticisms against IAS 32 are described, and compared with approaches in the FASB document.

According to the observer notes (Agenda paper 7) for Joint IASB/FASB meeting in October 2008, addition to the three approaches presented in the Preliminary Views, loss absorption approach, perpetual approach, participation approach (broad view of equity approach), IAS 32 (without modification), modified IAS 32, are discussed. And the Boards decided to begin future deliberations using the principles underlying the perpetual and basic ownership approaches[329].

4   Accounting Practice in Japan

(1) Listed Preferred Stocks

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[328] Memorandum of Understanding between the FASB and the IASB, *A Roadmap for Convergence between IFRSs and US GAAP — 2006-2008*, 27 February 2006.

[329] IASB Observer Notes, Agenda paper 9, Financial Instruments with Characteristics of Equity: Developing a Classification Model. November 2008, par.1.

In Japanese practice, capital structure is simple and most of the company only issues common stocks. It is rare to find preferred stock listed and traded[330], but when they are listed, the amount will be material.

Shinkin Central Bank issues common shares (common investment securities) and preferred shares (preferred investment securities), but only the preferred shares are listed and traded among investors since December 2000. Preferred shares of Shinkin Central Bank have stated value[331] and preferred dividend is six percent of the stated value per year, but no voting rights at the general meeting. As Shinkin Central Bank serves as the central bank for shinkin banks[332], whose membership consists of all shinkin banks nationwide, and common shares of Shinkin Central Bank are held by those shinkin banks. According to the Annual Securities Report[333] of the Shinkin Central Bank submitted in 2008, the amount of common shares was two hundred billion yen and the amount of preferred shares was ninety one billion yen[334]. The capital surplus was one hundred and one billion yen and that total amount has been contributed from preferred shareholders.

ITO EN issued preferred stocks and they were listed at First Section of the Tokyo Stock Exchange in 2007. The amount of preferred dividend is twenty five per cent more than the amount of dividend for common stock. When no dividend is declared for common stock, the amount of dividend for preferred stock will be fifteen yen per share. According to the Annual Securities Report of the ITO EN submitted in 2008, the amount of common stocks and the amount of capital surplus from common stocks was about thirteen billion yen each. The amount of preferred stocks and the amount of capital surplus from preferred stocks was about twenty billion yen each. So ITO EN received more funds by issuing preferred stocks.

According to the basic ownership approach, preferred share or preferred stock will be classified as liability. But in case of the Shinkin Central Bank, only the preferred shares are traded at the stock market, so the investors in the market will be only preferred shareholders. If preferred shares are treated as liabilities, then accounting structure for calculation of earnings will not be for them, not for the investors in the market. Same thing can be said for preferred stockholders of ITO EN. Although nearly half of the

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[330] Preferred stocks of Sakura Bank was listed in 1994 but delisted in 1997. Subsidiary Tracking Stock of Sony was listed in 2001 but delisted in 2005. Japanese banks issued preferred stock to receive financial support from the government after the financial crisis in late 1990s. Some companies issued preferred stocks as a result of debt equity swap. Although common stocks of those companies are listed, preferred stocks are not.

[331] Corporation established by Japanese Company Law do not have par value for their stocks. Because Shinkin Central Bank is established by Shinkin Bank Law (Cooperative Financial Institution Law) the shares of Shinkin Central Bank have stated value.

[332] Shinkin banks are cooperative financial institutions, and their membership is composed of local residents and small and medium-sized companies, but their functions are almost the same as those of commercial banks, and they also deal with many people who are not members (Shinkin Central Bank, *Annual Report* 2008, p.18).

[333] Official annual report submitted to the Financial Service Agency following the Financial Instruments and Exchange Act, Article 24.

[334] Although the total amount of common shares and preferred shares is disclosed, each amount of each class of shares is not disclosed on the balance sheet in Japan. So it is necessary to look for those figures in the other part (situation of the submitting company) of the Annual Securities Report.

capital was invested from preferred stockholders, if the basic ownership approach is adopted, they will be excluded from equity holders.

(2) Restricted Stock Type Stock Options

In Japan, employees received lump sum cash payment when they retire at the retirement age of the company[335]. Officer also received lump sum cash payment when they retire, just like employees. But situation is changing for officers. According to NIKKEI Newspaper (September 14, 2008, p.1), sixty per cent of listed companies in Japan have abolished those lump sum cash payment at the retirement for offices, and one third of them have introduced stock option plans to substitute it.

Among those stock options that substituted lump sum payment at the retirement of officer, some of them are restricted stock plans in substance. Early examples of restricted stock type stock option plans[336] can be found in Nikko Cordial Corporation in 2003. According to the *Annual Report* 2007 of Nikko Cordial Corporation[337], stock option plan resolved at the board meeting on June 26, 2003, and several plans resolved after that date, exercise price was set at one yen. As the stock price was over one thousand yen, one yen was only a nominal value. As for vesting conditions for stock option granted in 2003, "The earlier of the day a holder loses his or her position as a director of Nikko Cordial Group or June 30, 2022", which means it will be exercisable when he or she retires. In Japan, it is unlikely that he or she will serve as a director for more than nineteen years.

According to the *Operation Report* (proxy statement) in May 2003 of Nikko Cordial Corporation[338], stock compensation type stock option plan was introduced to make directors and executive officers to share not only the benefit of stock price increase but also the risk of stock price decrease with stockholders. At the same time, lump sum cash payment plan for directors and executive officers was abolished.

Income tax played an important role for producing that kind of compensation plan. If stock itself was granted and made it non transferable by the contract or junior stock with was granted, income tax would be imposed on the grant date. On the contrary, when stock option is granted without a consideration, even if it is not a qualified stock option[339], income tax will not be imposed until it is exercised.

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[335] Part of the lump sum payment was substituted by pension plan by the company. In Japan, dual system of pension plan exists. One is run by the national government, and the other by the employer, or company.

[336] In the English version of *Annual Report* of Mitsubishi Corporation in 2005
 (http://www.mitsubishicorp.com/en/pdf/ir/library/ar/archives/ar2005.pdf)
simple English translation of Japanese "KABUSHIKI HOSHUGATA" stock option plan, "Stock Option for a Stock-Linked Compensation Plan" is used.

[337] Nikko Cordial Corporation merged with Citigroup Japan Holdings Ltd. to form Nikko Citi Holdings Inc. on May 1, 2008. (http://www.nikko.jp/GRP/index_e.html) PDF file of the annual report can be found at the following URL.
http://www.nikko.jp/ICSFiles/afieldfile/2007/09/26/07are_shiori.pdf

[338] *Operation Report* can be found in the Financial Report Service database NEXT YUHO KAKUMEI by Hitachi High Technologies Corporation.

[339] In case of qualified stock option, Japanese Income Tax Law postpones imposing tax until stock is sold by the grantee of the stock option (Act on Special Measures Concerning Taxation, Article 29).

Even if the basic ownership approach is adopted, according to the Preliminary Views, "Substance" will be taken into consideration and penny warrant will be treated as equity (pars.44-46). This is nothing but a proof that the difference between stock and warrant cannot be determined based on their legal form. What is the substance of stock has to be clarified.

And also it is not difficult to imagine that if the accounting for stock option and accounting for stock become different, that will provide an opportunity for creative accounting[340].

(3) Revenue Recognized from Stock Subscription Rights Transaction

Accounting for stock subscription rights affect financing activities of the company significantly. In 1994, in Japan, accounting treatment for debt issued with stock purchase warrants was changed to treat debt and stock purchase warrants separately in accounting[341]. Since then, very few Japanese companies issued debt issued with stock purchase warrants for financing purpose[342].

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[340] Company cannot record profit or loss from the transaction of treasury stocks. But if stock purchase warrants are classified as liabilities, company can record profit or loss from the transaction of treasury warrants.

Before the amendment of the Japanese Commercial Code in 2001, purchase of treasury shares were prohibited except for the designated limited purposes by the Commercial Code or Special Laws in Japan. As the gain and loss from transaction of treasury shares was rare and was not material, it was treated as profit and loss. But the amendment changed that situation. The articles in the Commercial Code that required treating treasury shares as assets were amended. Transactions of treasury shares are no longer exceptional. The amount cannot be said as immaterial. It became possible and necessary to treat treasury share as deduction of capital by the accounting standard. So ASB Statement No.1 was issued in February 2002 so that Gain and loss from transaction of treasury shares can no longer reported in the income statement

ASB Statement No.5 "Accounting Standard for the Presentation of the Net Assets in the Balance Sheet" was issued in December 2005 and it changed the Capital section of the balance sheet to the Net Assets section. As the balance of outstanding stock options is included in the net assets section in the balance sheet, it might look that the accounting treatment is same as IFRS 2 or FAS 123 (R). However, that is not the case there. The difference is that when the stock option expires, even after vesting, the balance will be transferred to gain and reported in the income statement. Because the owner of stock option is not a shareholder, the contribution from the owner of stock option is not contribution from the shareholder. It is not included in shareholders' capital. Stock options are not presented among liabilities any more, but they are not presented within the shareholders' capital. As a result, when the stock option expires, not only the non vested ones but also for the vested ones, the balance of Stock Options account will be transferred to Gain from Stock Options Expired account and reported in the income statement.

[341] Japanese Institute of Certified Public Accountants issued a Report entitled "Accounting for debt issued with stock purchase warrants by the issuing company."

[342] See Noguchi (1998) for the effect on the choice of financial instruments. After the change in accounting treatments, most of the debts issued with stock purchase warrants were for stock based compensations. Because of the restriction of the Commercial Code, some companies chose to use stock purchase warrants issued with debt for stock

Before 1994, when the split accounting for debt issued with stock purchase warrants were introduced in Japan, there were more than ten cases of bonds issued with stock purchase warrants that their issue price exceeded their face value more than their total interest expense until maturity. For example, one company issued debt with stock purchase warrants at @101.60 yen. The interest rate was only 0.1% per year, and that debt was a four-year bond. So the total interest expense until maturity was only @0.40 yen, and the premium (treated as revenue) was @1.60 yen. Thus, the net of @1.20 yen resulted in the increase net income (Noguchi, 1998, p.336).

Similar case can be found in the other capital market. In UK, one company actually reported negative finance cost by following FRS 4 (Davies, Paterson and Wilson, 1997).

If conversion features are not treated separately in case of convertible debt, there will be following problems:

i) Consideration for conversion features will be allocated and offset interest expense that should have been recognized.

ii) When the stock price falls and becomes unlikely to be converted, if the company selects to redeem convertible debt, gain will be recognized. What's worse is that, in such kind of situation, company can select when to recognize that gain as long as the company can obtain enough fund to redeem convertible debt.

When conversion feature is not recognized separately, that will result in reporting the consideration for conversion feature as revenue. That means a part of the consideration for shares might be treated as revenue. In order to rule out split accounting for convertible debt, this problem has to be overcome.

Paton & Paton (1955, p.52) uses analogy that crediting income for lapsed stock option is on the same footing as crediting income for cash invested through an ordinary stock subscription and forfeited.

5 Summary

Definition, recognition, and measurement, all three aspects have to be take into consideration to figure out what would be the accounting treatment for financial instrument issued by the company.

In case of accounting for stock options before FAS 123R, it was the measurement which kept outstanding stock options off balanced. Even if the stocks are subscribed and issued, unpaid subscription will not be treated as equity. Increase in equity is generally recognized when contribution is made. In those cases, not the definition of equity, but measurement or recognition that prevented recording increase in equity in the balance sheet. If it is necessary to classify stock options or stock purchase warrants as equity, which can be done by modifying the recognition criteria even under the basic ownership approach.

The Preliminary Views of FASB supported the basic ownership approach. In this paper, three cases in Japan, (1) Listed Preferred Stocks, (2) Restricted Stock Type Stock Options, (3) Revenue Recognized from Stock Subscription Rights Transaction, were presented to show the defects of the basic ownership approach explained in the Preliminary Views.

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option plans in substance.

Those cases are not necessarily unique to Japan. For example, similar problem of the basic ownership approach like (1) listed preferred stocks, has already been pointed out. According to the comment letter submitted to IASB, in case of European partnerships or cooperatives, the basic ownership approach would lead to a classification of interests of those organizations as liabilities[343]. In such kind of case, the basic ownership approach could lead to no equity presented on the financial statements.

As for the significance of (2), according to Towers Perrin Tokyo Office & Nikko Cordial Securities Inc (2009), by June 2009, 40% of listed companies in Japan have experienced granting stock options, and among 381 companies granted stock options last year, 150 companies granted restricted type stock options. So the restricted type stock option is one of the major forms of the stock options used in Japan.

Recognition of gain and loss from the transaction of stock subscription rights, stock options, or stock purchase warrants needs to be analyzed further. It might provide more room for creative accounting or real earnings management. But if they are measured at fair value and gain or loss are reported for the change in their fair value[344], it might provide useful information.

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REPORTING FINANCIAL RATIOS IN ANNUAL REPORTS: VOLUNTARY DISCLOSURE PERSPECTIVE

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Abstract

This study examines the predictors of the extent of financial ratio disclosures within the 2007 annual reports of 300 Australian listed companies. Utilising agency theory as the theoretical framework, corporate governance, capital management initiatives, ownership concentration and firm size are hypothesised to be associated with the financial ratio disclosure patterns. A 43-item financial ratio disclosure index is developed and classified into five key sub-categories.

Overall, the extent of financial ratio disclosures is very low (5.3%) with more extensive disclosures within the sub-categories of Share Market Measure, Profitability and Capital Structure. A far lower Liquidity and Cash Flow ratio information is reported. Larger firms with more dispersed share ownership provided more extensive financial ratio information than the others. Further, profit-making firms and Big4 clients exhibit more extensive financial ratio disclosures. Resources firms presented significantly lower incidents of financial ratio than the Financials and Services sector. Corporate governance and capital management initiatives do not have predictive properties.

The findings of the research have important implications for understanding disclosure incentives as they relate to the extent of financial ratios disclosures within the annual reports of ASX listed firms.

Keywords: Financial ratios, voluntary disclosure, Australia

1.0 INTRODUCTION

This study offers a unique perspective of voluntary reporting, specifically on financial ratio disclosures in Australian companies' annual reports. The aim of this research is to investigate the factors that motivate firms to disclose financial ratio data to the stakeholders through their annual reports. A sample of 300 Australian listed companies is selected and 2007 annual reports are analysed.

Undeniably, there is an increasing interest in voluntary disclosure research recently (Brammer and Pavelin 2006; Chow and Wong-Boren 1987; Cooke 1989; Eng and Mak 2003; Guthrie *et al.* 2006; Healy and Palepu 2001; Hossain *et al.* 1994; Leung and Horwitz 2004; Meek *et al.* 1995; Botosan and Harris 2000). However, limited focus is

given to the financial ratio disclosures (Mitchell 2006; Watson *et al.* 2002; Gibson 1982; Gibson and Boyer 1980; Courtis 1996; Aripin *et al.* 2008; Horrigan 1965).

Using agency theory tenets, this study predicts that corporate governance, capital management activities, ownership concentration and firm characteristics influence the extent of financial ratio disclosures in the companies' annual reports. Bigger firms with stronger corporate governance structure, higher capital management initiatives and less concentrated ownership are expected to have more extensive financial ratio disclosures.

2.0   LITERATURE REVIEW

2.1   The Relevance of Financial Ratio Disclosure

A financial ratio is defined as a mathematical relation between two quantities (Subramanyam and Wild 2009). Financial ratio analysis is useful for several reasons: providing insights of the underlying firms' financial condition (Subramanyam and Wild 2009), a signalling tool (Mitchell 2006), accessing and comparing company's performance (Watson *et al.* 2002) and serving as an alternative to possible misleading influence of the absolute dollar figures (Courtis 1996). In addition, financial ratios are used in predictive studies (Altman 1968; Beaver 1966; Neophytou and Molinero 2004).

The disclosure of financial ratios in the annual reports is driven by several motives. First, the disclosures can enhance the understanding of stakeholders by providing them a quick and simple tool highlighting the firms' performance. Assessment of firm performance can be further enhanced if the ratio data is presented using graphs or tables (Courtis 1996) that depict changes over time. Secondly, communicating financial ratio information can provide users of financial statements with new information that is

not comprehensively presented in any single media (Watson *et al.* 2002). This information would be more meaningful for non-sophisticated users in evaluating and making informed investment decisions.

Further, some ratios are not possible to be calculated by readers because of the non-availability of inside information (Gibson 1982). Therefore, providing ratios such as account receivables turnover in the annual report could offer important insights of firms' financial health position to the readers. Alternatively, disclosure of financial ratios would efficiently reduce the time and cost of obtaining and processing information (Watson *et al.* 2002) elsewhere. Graham *et al.* (2005) suggests that among the reasons why companies choose to provide voluntary information is the reduction of the cost of capital and to provide important information to investors that is not included in the mandatory financial statements. Arguably, when company disclose financial ratio in the annual report, the management is communicating the importance of financial ratio information to be provided to the stakeholders. By providing such voluntary disclosure, managers must believe that the benefits outweigh its cost (Watson *et al.* 2002).

2.2 Theoretical Background and Hypotheses Development

This study employs agency theory to investigate the determinants of financial ratio disclosures in the companies' annual reports. It is argued that by disclosing voluntary information to users, the information asymmetry problem arising from conflicting agency relationship is reduced (Healy and Palepu 2001). Similarly, it is believed that corporate governance, capital management initiatives, ownership concentration and firm size will impact on financial ratio disclosure.

2.2.1   Corporate governance

Corporate governance may positively impact on the corporate reporting practices, including voluntary disclosures. (Barako *et al.* 2006; Bassett *et al.* 2007; Beasley *et al.* 2000; Beekes and Brown 2006; Chau and Gray 2002; Denis and McConnell 2003; Haniffa and Cooke 2002; Lakhal 2005; Taylor *et al.* 2008). Taylor *et al.* (2008), Barako's (2004) and Eng and Mak (2003) findings reveal that the presence corporate governance elements positively explain the level of voluntary disclosure in Australia, Kenya and Singapore respectively (also see Beekes and Brown 2006). These previous studies highlight the importance of corporate governance practices of the firms towards their financial reporting policy.

The requirement of ASX listed firms to disclose the extent to which they adhere to the best practice corporate governance principles and recommendations facilitates a comparison between a firm's corporate governance characteristics and financial ratio disclosures. Consistent with this rationale, it is expected that the extent of financial ratio information disclosed is positively related to the strength of corporate governance structure. Therefore, the following hypothesis is proposed:

> **H_1**: *The extent of financial ratio disclosures is positively associated with a stronger corporate governance structure.*

2.2.2   Capital Management Initiatives

In this study, core capital management initiatives include capital raising activities, takeover and merger activities, overseas cross-listings and the existence of international operations. Using agency theory, it is argued that firms engaging in such capital management initiatives provide more disclosure in order to reduce agency conflicts.

Frankel *et al.* (1995) concludes that financing firms have greater incentives to voluntarily disclose information than non-financing firms. Meek and Gray (1989) find that Continental European companies disclose more voluntary information due to pressure associated to the need to raise capital in the international capital market context. While Brennan (1999) reports greater disclosure of profit forecast during takeover bids for UK listed companies, Lang *et al.* (2006) suggests that cross-listed firms are facing different reporting incentives . This is consistent with Malone *et al.* (1993), who argues that firms with overseas operation are subject to additional reporting requirements by the foreign governments.

It is hypothesised that firms participating in these capital management initiatives will exhibit more extensive financial ratio disclosure because of the capital market scrutiny and pressure. It is argued that these firms need to provide more information to keep the investors and stakeholders more informed due to a larger group of investors (after raising new capital and merger), as well as a wider set of stakeholders (cross listings and foreign operations). Additionally, disclosure of financial ratio information is often event related. For instance, financial ratios may be disclosed to highlight the change in financial, operational or investment structure of the firm immediately following the aforementioned capital management events and activities. Therefore, it is expected:

H_2: The extent of financial ratio disclosures is positively associated with firms' capital management initiatives

2.2.3   Ownership concentration

Ownership structure is another possible mechanism that aligns the interests of shareholders and managers (Eng and Mak 2003; Haniffa and Cooke 2002; Chau and

Gray 2002; Hossain *et al.* 1994). Agency problems may be reduced in companies with a higher concentrated ownership structures. It is suggested that firms with higher concentration of ownership structure may disclose less information to shareholders. Chau and Gray (2002), Lakhal (2005), Oliveira *et al.* (2006) and Hossain *et al.* (1994) find a negative relationship between share ownership concentration and voluntary disclosures in a variety of countries including Hong Kong, Singapore, France, Portugal and Malaysia. The significant role of ownership concentration in influencing financial disclosure practices is clearly evident in previous studies worldwide. It is thus expected that ownership concentration influences the voluntary disclosure of financial ratio. This hypothesis is formally stated as:

H₃: The extent of financial ratio disclosures is negatively associated with higher ownership concentration.

2.2.4 Firm size

Consistent with prior literature, firm size is believed to influence the financial ratio disclosures practices of the firms. Many researchers (Hossain *et al.* 1994; Wallace *et al.* 1994; Chow and Wong-Boren 1987; Buzby 1975; Singhvi and Desai 1971) find a significant impact of firm size on the level of financial reporting of companies. Therefore, this factor is considered important in determining the extent of financial ratio disclosures.

According to Jensen and Meckling (1976) and Chow and Wong-Boren (1987), larger firms tend to have a higher proportion of outside capital and higher agency costs. On the other hand, Singhvi and Desai (1971) argue that larger firms tend to provide better quality disclosures because of the lower cost of accumulating detailed information and they are more likely to realise the possible benefits of better disclosure. Thus, by

voluntarily disclose additional information may mitigate agency conflicts. Using the same perspective, Watson *et al.* (2002); Barako *et al.* (2006) and Brammer and Pavelin (2006) also note that the larger the firm, the more likely they will make voluntary disclosures. Further evidence on firm size is provided by McNally *et al.* (1982); Singhvi and Desai (1971); Buzby (1975); Oliveira *et al.* (2006); Chau and Gray (2002) and Patelli and Prencipe (2007). Based on the studies done worldwide, it can be argued that firm size influence the voluntary financial reporting practices of companies. Thus, the impact of firm size is expected to be positively associated with the extent of financial ratio disclosures. The hypothesis designed to test this assertion is formally stated as:

H_4: *The extent of financial ratio disclosures is positively associated with firm size.*

In summary, four variables: corporate governance structure, capital management initiatives, ownership and firm size are hypothesised to be associated with the extent of financial ratio disclosure.

3.0   RESEARCH DESIGN

A sample of 300 Australian firms listed on Australian Stock Exchange (ASX) is selected with 75 companies stratified randomly selected from each of four main industry categories-Resources, Manufacturing, Services and Financials. The 2007 annual reports of sample firms are then analysed.

The dependent variable of this study is the Extent of Financial Ratio Disclosure (EFRD). EFRD is the proxy to measure the extensiveness of financial ratio disclosures in companies' annual reports. A disclosure index comprising 43-item of ratios most commonly discussed by seminal authors is developed. The ratios are then categorised into five major categories – *Share Market Measure* (SMM), *Profitability* (PROF), *Capital*

Structure (CS), *Liquidity* (LIQ) and *Cash Flow* (CF) ratios. Earning per share (EPS) is excluded since it is the sole financial ratio required to be disclosed by the AASB (AASB 2006). Each voluntarily item disclosed is scored as one (1) if present in the annual report for each company; otherwise zero (0). The EFRD scores is computed by summing up all items disclosed divided by maximum possible number of financial ratios that could be disclosed (43).

The strength of corporate governance structure is measured as a composite measure of thirteen key items recommended by the ASX Corporate Governance Council (2003). These thirteen items are aggregated and utilised by Taylor *et al.* (2008). These items incorporate the concept of independence of the chairman; duality; independence of directors on the board; audit committee characteristics; code of conduct; nomination policy; remuneration policy; risk management policy and written continuous disclosure policy (refer Appendix). A score of one (1) is allocated against each of the corporate governance items present; otherwise zero (0). A composite score comprising thirteen corporate governance items is then computed for each company.

Capital management initiatives comprise capital raising activities, takeover or merger activities, overseas listing and international operations. Thus, CM is a composite measure of these four items which relates to capital management activity of the company (refer Appendix). A score of one (1) is allocated against each of the capital management items present; otherwise zero (0). The composite score of CM is then computed for each company.

The ownership concentration (OC) score is measured as a total shareholding of Top 20 shareholders. OC is treated as a continuous variable by dividing number of shares owned by top twenty shareholders by the total number of shares issues. For this study, firm size is measured as natural log of total assets. As suggested by Hossain *et al.* (1994), natural logarithmic transformation reduces the skewness setoff the raw data.

Five control variables are employed: There are: Leverage (LEV) - Ratio of total debt to total assets; Non-audit fess (NAF) - Ratio of non-audit related fees to total audit fees; Industry (IND) - Dummy variable for four major categories of industry (Resources, Manufacturing, Services and Financials); Audit type (AUDTYPE) - Dichotomous variable for type of auditor (1 for Big4, 0 for Non-Big4) and Profit/ Loss firm (PLF) - (1 for profit firm and 0 for loss firm).

4.0   DESCRIPTIVE AND STATISTICAL ANALYSIS

4.1   Descriptive Statistics

As shown in Table 1, on average sample companies only disclose 5.3% of the 43 ratios investigated in this study. The maximum level of disclosure is 30.2%. Analysis on each major category reveals that the *Share Market Measure* scored the highest (9%), followed by *Capital Stru*cture and *Profitability* ratio with a mean of 7.9% and 7.4% respectively. However, the sample firms comm.

unicated less than 1% of *Liquidity* and *Cash Flow* ratios in their annual reports.

Table 1: Descriptive Statistics for EFRD

	Extent of financial ratio disclosure	Share Market Measure	Profitability	Capital Structure	Liquidity	Cash Flow
Mean (%)	5.3	9.0	7.4	7.9	0.9	0.2
Median (%)	2.3	9.1	0	0	0	0
SD (%)	5.6	9.6	10.8	12.5	4.6	1.7
Min. (%)	0	0	0	0	0	0
Max. (%)	30.2	36.4	55.6	57.1	42.9	22.2

Legend: SD is standard deviation; n=300.

Table 2 displays the percentage disclosure scores for each of the 43 ratios for the 300 Australian firms. The most reported ratios are 'Total Shareholder Return' (27%), 'Gearing' (26.7), 'Net Tangible Assets per Share' (25.7%), 'Return on Equities' (21.7%) and 'Dividend Payout' (20.7%). Further, 'Dividend Yield', 'Times Interest Earned' and 'EBITDA/Revenue' ratios were being disclosed between 15% to 18% of the sample firms. However, 11 out of 43 individual ratios are not communicated within the annual report by any companies.

Table 2: Extent of Financial Ratio Disclosures by Specific Ratio

Five Key Sub-categories (% disclosure score)	Specific ratio	% disclosure score
1. Share Market Measure (9.0%)	1.Total shareholder return (TSR)	27.0
	2.Net tangible assets per share (NTAB)	25.7
	3. Dividend payout	20.7
	4.Dividend yield	18.3
	5.Net assets per share (NAB)	3.7
	6.Market capitalisation	1.7
	7.Price-to-earnings (P/E)	1.0
	8.Earnings yield	1.0
	9.Price-to-book	0
	10.Book value per ordinary share	0
	11.Market-to-book ratio	0
2. Capital Structure (7.9%)	1.Gearing	26.7
	2.Times interest earned	15.3
	3.Total debt/equity	7.0
	4.Capitalisation ratio	2.7
	5.Equity ratio	2.0
	6.Liabilities/ Assets	1.3
	7.Long Term debt/equity	0
3. Profitability (7.4%)	1.Return on equities (ROE)	21.7
	2.EBITDA/ Revenue	15.0

	3.Gross profit margin	7.3
	4.Total expenses/revenue	7.0
	5.Return on assets (ROA)	5.3
	6.Net profit margin	5.0
	7.Pre-tax profit margin	4.0
	8.Return on sales	0.7
	9.Sales turnover	0.3
4. Liquidity (0.9%)	1.Current ratio	3.0
	2.Inventory turnover	1.0
	3.Quick ratio	0.7
	4.Days to sell inventory	0.7
	5.Accounts receivable turnover	0.3
	6.Collection period	0.3
	7.Payment period	0
5. Cash Flow (0.2%)	1.Operation index	1.0
	2.Cash flow adequacy	0.3
	3.Cash flow ratio	0.3
	4.Repayment long term borrowings	0
	5.Dividend payment	0
	6.Reinvestment	0
	7.Debt coverage	0
	8.Cash flow to revenue	0
	9.Cash flow return on assets	0
Overall EFRD		**5.3**

Legend: All 43 ratio percentages are calculated as the mean average of 300 sample companies. The five key sub-categories mean averages are also shown.

4.2   Univariate Analysis

Univariate tests are conducted to examine whether there is significant difference between the EFRD and the categorical variables. First, the t-test was conducted for profit-versus-loss firms. On average, the mean EFRD for profit firms is far higher than the loss firms at 7% versus 1.2% respectively, and the difference is statistically significant (p-value =0.000). This result implies that profit firms disclose more financial ratio information in the annual reports than loss firms (refer Table 3).

Table 3: T-test EFRD with Profit/ Loss Firms and Audit Firm Type

	N	Mean (%)	EFRD Mean Difference (%)	t-stats	Sig.
Profit/Loss firms					
Loss	88	1.2	-5.8	-12.657	0.000*
Profit	212	7.0			
Audit firm type					
Non-big4	108	2.4	-4.5	-8.473	0.000*
Big4	192	6.9			

Legend: *,**,*** Highly significant at the 0.01 level, Significant at the 0.05 level, Moderately significant at the 0.1 level respectively (2-tailed); EFRD is Extent of financial ratio disclosure; Big4 audit firms are KPMG Peat Marwick, Ernst & Young, Deloitte & Touche and PriceWaterhouse Coopers; Non-big4 audit firms are all others

A t-test is also performed for audit firm type (Big4-versus-NonBig4). Again, the mean EFRD is statistically different at 1% level if company is audited by the Big4 as compared to the Non-Big4 audit firms. Companies audited by Big4 audit firms reported significantly higher financial ratios in the annual reports with levels at about 7%.

Univariate analysis is carried out for each of five key EFRD sub-categories. Table 4 shows that the results for the profit/loss firms and audit firm type analysis are consistent across *Share Market Measure*, *Profitability* and *Capital Structure* sub-categories. Profit firms and firms audited by Big4 disclose significantly higher ratios within each of these three categories. However, the results differ for the *Liquidity* and *Cash Flow* ratio sub-categories.

Table 4: T-tests (Five Key Sub EFRD with Profit/ Loss Firms and Audit Firm Type)

Sub EFRD		N	Mean (%)	Mean Difference (%)	t-stat	Sig.
			Profit/Loss Firms			
Share Market	Loss	88	3.0	-8.5	-9.744	0.000*
Measure	Profit	212	11.5			
Profitability	Loss	88	1.0	-9.0	-9.911	0.000*

	Profit	212	10.0			
Capital Structure	Loss	88	1.1	-9.6	-8.755	0.000*
	Profit	212	10.7			
Liquidity	Loss	88	0.2	-0.9	-2.446	0.015**
	Profit	212	1.1			
Cash Flow	Loss	88	0.0	-0.3	-1.901	0.059***
	Profit	212	0.3			
Audit Firm Type						
Share Market Measure	Non- Big4	108	5.1	-6.1	-6.247	0.000*
	Big4	192	11.2			
Profitability	Non- Big4	108	2.7	-7.3	-7.223	0.000*
	Big4	192	10.0			
Capital Structure	Non- Big4	108	2.6	-8.3	-6.761	0.000*
	Big4	192	10.9			
Liquidity	Non- Big4	108	0.9	0.1	0.194	0.846
	Big4	192	0.8			
Cash Flow	Non- Big4	108	0.1	-0.1	-0.632	0.528
	Big4	192	0.2			

Legend: *,**,*** Highly significant at the 0.01 level, Significant at the 0.05 level, Moderately significant at the 0.1 level respectively (2-tailed); Sub EFRD is 5 key sub-categories of EFRD namely Share Market Measure ratio, Profitability ratio, Capital Structure ratio, Liquidity ratio and Cash Flow ratio; Big4 audit firms are KPMG Peat Marwick, Ernst & Young, Deloitte & Touche and PriceWaterhouse Coopers; Non-big4 audit firms are all others.

In addition, an ANOVA test was conducted to examine whether there is significant difference in financial ratio disclosures across the four major industry categories when dealing with financial ratio disclosures. Table 5 reports that Resources firms provided less extensive financial ratio information with a mean of 3.1%. The other three industries (Manufacturing, Services and Financials) communicate twice as many ratios[345]. This result confirms the findings of Mitchell (2006) in his study of Australian financial ratios using early 1990s data.

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[345] Tukey HSD test confirms that Resources companies disclose significantly lower EFRD than Services and Financials firms.

Table 5: ANOVA EFRD with Four Industry Categories

	EFRD			
	N	**Mean (%)**	**F**	**Sig.**
Industry4			6.706	0.000*
Resources	75	3.1		
Manufacturing	75	5.1		
Services	75	6.1		
Financials	75	6.9		

Legend: *,**,*** Highly significant at the 0.01 level, Significant at the 0.05 level, Moderately significant at the 0.1 level respectively (2-tailed); EFRD is Extent of financial ratio disclosure; Industry4 are the four major categories of industry (Tower *et al.*, 1999) namely Resources, Manufacturing, Services and Financials.

Table 6 displays the correlation coefficients for Pearson (top right) and Spearman (lower left). As expected, there is a positive relationship between EFRD and each of three key sub-categories; *Share Market Measure*, *Profitability* and *Capital Structure* both for Pearson (r=0.783, r=0.791, r=0.771, p<0.01 respectively) and Spearman (r_s=0.798, r_s=0.795, r_s=0.745, p<0.01 respectively) correlations. This relationship is significantly higher as compared to the *Liquidity* and *Cash Flow* sub-categories.

Correlation insights can also be noted between the dependent and predictor variables. Both firm size and corporate governance (independent variables) are positively significantly correlated with EFRD. In addition, most of the control variables (leverage, profit/ loss firms, industry and audit type) also positively related. These results support H_1 and H_4, which link EFRD with corporate governance and firm size variables.

There is a positive relationship between firm size and leverage, non-audit fees, profit/ loss firms, and audit type for both Pearson and Spearman correlations. The larger the firm, the higher is the leverage and the non-audit fees ratio. Larger firms are also more likely to be profitable firms and audited by Big4 audit firms. In contrast, firm size is negatively correlated to auditor's name in both the Pearson and Spearman correlations.

Audit type is significantly correlated (p<0.001) with auditor's name in the opposite direction for both Pearson (r=-0.803) and Spearman (r_s=-0.860) correlations. As the correlation coefficient is above the critical limits of 0.80 (Hair *et al.* 2006) between these variables, multicolinearity may exist. Therefore, these two categorical predictor variables will not be included in the regression model simultaneously.

Table 6: Correlations between dependent, independent and control variables.

	EFRD	SMM	PR	CS	LR	CF	CG	CM	OC	FS	LEV	NAF	PLF	IND	AT	AN
EFRD		0.783*	0.791*	0.771*	0.334*	0.106***	0.392*	0.173*	-0.003	0.625*	0.265*	-0.035	0.477*	0.246*	0.387*	-0.323*
SMM	0.798*		0.435*	0.401*	0.130**	0.022	0.371*	0.117**	-0.012	0.543*	0.156*	0.003	0.404*	0.321*	0.309*	-0.227*
PR	0.795*	0.461*		0.474*	0.139	0.015	0.289*	0.164*	-0.036	0.548*	0.287*	0.012	0.378*	0.197*	0.325*	-0.300*
CS	0.745*	0.402*	0.538*		0.243*	0.082	0.316*	0.122**	0.027	0.436*	0.217*	-0.037	0.349*	0.087	0.321*	-0.279*
LR	0.247*	0.050	0.145**	0.217*		-0.021	-0.052	0.057	0.057	0.038	0.005	-0.134**	0.098	-0.037	-0.011	0.044
CF	0.110***	0.030	0.050	0.055	-0.025		0.030	0.028	-0.022	-0.032	-0.007	0.014	0.071	-0.049	0.037	-0.069
CG	0.487*	0.437*	0.359*	0.396*	-0.039	0.035		0.207*	0.003	0.554*	0.243*	0.163*	0.303*	0.079	0.415*	-0.293*
CM	0.187*	0.115**	0.199*	0.127**	0.068	0.030	0.196*		-0.019	0.297*	0.152*	0.093	0.041	-0.049	0.205*	-0.106***
OC	0.011	-0.032	0.008	0.027	0.100***	-0.026	-0.008	-0.035		0.088	0.178*	0.129**	0.184*	0.027	0.082	-0.018
FS	0.635*	0.535*	0.543*	0.483*	0.036	-0.011	0.615*	0.300*	0.132**		0.332*	0.175*	0.528**	0.218*	0.499*	-0.394*
LEV	0.347*	0.205*	0.371*	0.336*	0.016	-0.012	0.363*	0.230*	0.171*	0.485*		-0.013	0.179**	0.136**	0.182*	-0.135**
NAF	0.066	0.054	0.076	0.010	-0.127**	0.038	0.216*	0.101***	0.127**	0.230*	0.063		0.091	-0.011	0.213*	-0.088
PLF	0.554*	0.427*	0.440*	0.385*	0.102	0.075	0.324**	0.066	0.186*	0.555*	0.294*	0.121*		0.360**	0.279*	-0.220*
IND	0.261*	0.328*	0.208*	0.097***	-0.037	-0.026	0.087	-0.025	0.021	0.190*	0.168*	-0.008	0.360*		0.019	-0.005
AT	0.397*	0.309*	0.324*	0.349*	-0.011	0.027	0.423*	0.207*	0.087	0.518*	0.273*	0.224*	0.279*	0.019		-0.803*
AN	-0.338*	-0.236*	-0.288*	-0.323*	0.031	-0.044	-0.331*	-0.133**	-0.030	-0.435*	-0.220*	-0.129**	-0.239*	-0.010	-0.860*	

Legend: *, **, *** Correlation is highly significant at the 0.01 level, significant at the 0.05 level, moderately significant at the 0.1 level respectively (2-tailed); EFRD= Extent of Financial Ratio Disclosure; SMM= Share Market Measure Ratio; PR= Profitability Ratio; CS= Capital Structure Ratio; LR= Liquidity Ratio; CF= Cash Flow Ratio; CG= Corporate Governance; CM= Capital Management; OC= Ownership Concentration; FS= Firm Size; LEV= Leverage; NAF= Non audit fees, PLF= Profit/ Loss Firms, IND= Industry, AT= Audit type, AN= Auditor's name

4.3   Multivariate Analysis

Table 7 presents the multiple regressions findings for the dependent variable (EFRD) and the possible predictor variables. The result reveals that the model is statistically significant (at 1% level) with F-value of 28.268. The adjusted R squared is 0.451 indicating that 45.1% of the variation in the EFRD can be explained by the model[346].

Corporate governance (CG) measured as composite measure of thirteen corporate governance items is not significantly related to the EFRD. The result indicates that this variable does not have any impact on the extensiveness of financial ratio disclosures in the annual reports. Thus, H_1 is not supported. Similarly, the level of financial ratio disclosures is not influenced by companies' capital management initiatives (capital raising, takeovers and mergers, overseas listing and international operations); H_2 is not supported.

In relation to Ownership concentration (OC), this variable is significant (at 5% level) with p-value of 0.040 negatively related to the EFRD. It appears that the higher the percentage of Top 20 shareholding, the lower the level of financial ratio disclosures. This results is consistent with expected direction, therefore H_3 is supported. Further, firm size (FSIZE) is found to be significantly (at 1% level) and positively related to EFRD (p-value of 0.000). Larger Australian firms disclosed more financial ratios in their annual reports. H_4 is then supported.

Table 7: Multiple Regression Results (EFRD)

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[346] This study tests the interaction effects between categorical variables (PLF, IND and AUDTYPE) using the General Linear Model (GLM) menu in SPSS. The results show that there are no interaction effects between the three variables.

EFRD			
Adjusted R square	0.451		
Observations	300		
F Statistics	28.268		
Significance	0.000*		
Variables	Coefficients	t-stat	P-value
Intercept	-0.156	-6.620	0.000*
CG	0.013	0.891	0.187
CM	0.003	0.191	0.424
OC	-0.026	-1.765	0.040**
FSIZE	0.010	6.766	0.000*
LEV	0.009	1.147	0.252
NAF	-0.036	-3.389	0.000*
PLF	0.024	3.569	0.000*
IND	0.03	1.481	0.140
AUDTYPE	0.014	2.403	0.017**

Legend: *,**,*** Highly significant at the 0.01 level, Significant at the 0.05 level, Moderately significant at the 0.1 level respectively; 1-tailed and 2-tailed test is used for directional and non-directional association respectively; EFRD is Extent of financial ratio disclosures; CG is Corporate governance; CM is Capital management; OC is Ownership concentration; FSIZE is Firm size; LEV is Leverage; NAF is Non-audit fees; PLF is Profit/ loss firm; IND is Industry; AUDTYPE is type of auditor (Big4-NonBig4).

The control variables offer further insights into financial ratio disclosure patterns. The percentage of non-audit fees to the total fees (NAF) is significantly and negatively related to EFRD (at 1% level). This ratio is considered to be a measure of auditor independence. Companies audited by a more independent auditor disclosed more extensive financial ratio information. Another interesting result is found between profit/ loss firms and EFRD. The result suggests that the profit firms disclosed more financial ratios than the loss firms (with p-value of 0.000). This result is consistent with the univariate test. Finally, audit type (Big4-NonBig4 auditors) is significantly and positively related to EFRD. Again, this finding supports the earlier univariate test, where companies audited by Big4 audit firms more likely to communicate higher levels of financial ratios.

Table 8: Multiple Regressions (EFRD Sub-categories)

	Share Market Measure	**Profitability**	**Capital Structure**	**Liquidity**	**Cash Flow**
Adjusted R square	0.351	0.331	0.239	0.022	-0.005
Observations	300	300	300	300	300
F Statistics	19.003	17.417	11.435	1.751	0.838
Significance	0.000*	0.000*	0.000*	0.077***	0.581
Variables	**p-value**	**p-value**	**p-value**	**p-value**	**p-value**
Intercept	0.000*	0.000*	0.001*	0.955	0.060**
CG	0.031**	0.191	0.094***	0.094***	0.264
CM	0.372	0.426	0.485	0.117	0.238
OC	0.128	0.008*	0.293	0.173	0.251
FSIZE	0.000*	0.000*	0.001*	0.272	0.031**
LEV	0.341	0.012**	0.224	0.715	0.875
NAF	0.022**	0.080***	0.001*	0.006*	0.427
PLF	0.043**	0.015**	0.002*	0.027**	0.015**
IND	0.000*	0.389	0.345	0.161	0.247
AUDTYPE	0.183	0.093***	0.021**	0.780	0.507

Legend: *,**,*** Highly significant at the 0.01 level, Significant at the 0.05 level, Moderately significant at the 0.1 level respectively; 1-tailed and 2-tailed test is used for directional and non-directional association respectively; CG is Corporate Governance; CM is Capital Management; OC is Ownership Concentration; FSIZE is Firm Size; LEV is Leverage; NAF is Non-audit Fees; PLF is Profit/ Loss firm; AUDTYPE is type of auditor (Big4-NonBig4).

Table 8 displays a summary of regression result for each of five key sub-categories of EFRD. For the *Share Market Measure* category, corporate governance and firm size is significantly related to EFRD. For control variables, non-audit fees, Profit/Loss firms and industry category are significantly associated with extent of ratios disclosed within the *Share Market Measure* sub-category. In addition, firm size is also significantly related to *Profitability* and *Capital Structure* sub-categories, while ownership concentration and leverage is only associated with *Profitability* ratio. Both Profit/Loss firms and Big4-NonBig4 audit firms are related to both *Profitability* and *Capital Structure*. Due to very small percentage of ratios disclosed within the *Liquidity* and *Cash Flow* sub-categories, the results for these models are very low.

5.0   Implications and Conclusion

According to agency theory tenets, it is believed that corporate governance, capital management initiatives, ownership concentration and firm size will influence voluntary disclosure of financial ratios. The descriptive statistics reveal that the extent of financial ratio is low in absolute terms. Only 5.3% of the 43 ratios are disclosed by Australian firms. Closer analysis shows that *Share Market Measure* sub-category are most disclosed by the firms, followed by *Profitability* and *Capital Structure* sub-categories. These finding is consistent with Watson *et al.* (2002) and suggested the possible reason is that these ratios are directly related and relevance to the shareholders. This finding is encouraging for stakeholders in that the *Share Market Measure* ratios are not readily calculated because of the non-availability of share price data in the annual reports. A lower disclosure score is evidenced for *Liquidity* and *Cash Flow* ratios. As suggested by Subramanyam and Wild (2009) and Dechow (1994), cash flow and liquidity information is less likely to directly impact share prices compared to net income information. Thus, companies may prefer to provide more information that has greater impact to their firms' value.

The statistical tests demonstrate that profit firms are more likely to provide more financial ratio information in the annual reports. This is consistent with Mitchell's (2006) argument that firms provide ratios to signal favourable financial performance. Firms audited by Big4 audit firms also communicate more financial ratios. The result implies that Big4 audit firms encourage firms to provide financial ratios in the annual report. This is consistent with the notion that Big4 auditors have better audit quality (Becker *et al.* 1998; Francis *et al.* 2005; Francis *et al.* 1999; Krishnan 2003), and possibly influence the reporting practices of the firms.

Resource firms provide the least financial ratios. This is consistent with Mitchell (2006) and Watson et al. (2002) who respectively found that mining firms and utility and media firms scored

the lowest levels of ratio disclosure. Watson et al. (2002) suggests that the firms believed that they do not need to disclose this information. This is possibly true for Resources companies because they may be concentrating on other non-financial issues such as reserve quantification, exploration and production, as well as environmental impacts. In contrast, financial firms contain more financial ratios in their annual reports. This is probably driven by the fact that they are in a high profile regulated industry, and therefore more likely provide more information to the users.

The results demonstrate that corporate governance and capital management initiatives are not associated with the extent of financial ratio disclosure. Corporate governance mechanisms are not reducing the information gap between the firms and stakeholders. Similarly, higher levels of capital management activities such as capital raising activities and international operations do not impact a companies' decision to disclose or not to disclose financial ratios.

Ownership concentration does impact on the financial ratio disclosure policy. The finding suggests that the more concentrated the shareholder structure, higher the level shareholdings, the lower the level of financial ratio provided in the annual reports. This result confirms the agency theory argument where concentrated ownership reduces the agency problem, and likely reduces the level of disclosure.

Finally, the bigger the firm, the higher the level of financial ratio reported. This finding is consistent with Mitchell (2006), Watson *et al.* (2002) and McKinnon and Dalimunthe (1993), who suggested that firm size could be associated with competitive advantage, information processing costs, proprietary costs, as well as political visibility and costs.

Several control variables (non-independence of auditor, profit-making firm and Big4 auditor) also provide predictive property towards the firms' decision in reporting the financial ratios in their annual reports.

In summary, the extent of financial ratio disclosure by Australian firms is low. Consistent with agency theory tenets, the decision to communication appears to be taken by larger firms with greater ownership dispersion. Harder to calculate ratios (such as share price data) is somewhat more disclosed then all other ratios. Overall, the findings in this research show a consistent pattern of opaque communication.

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APPENDIX

Description of the Corporate Governance Items

CG1	Is chairman of the board an independent director? 1=Yes; 0=No
CG2	Are the roles of the chairman and chief executive officer performed by different persons? 1=Yes; 0=No
CG3	If percentage of independent directors on the BOD<median=0; if percentage of independent director on the BOD >=median=1
CG4	Does the nomination committee have a policy for the appointment of directors? 1=Yes; 0=No
CG5	Has the board adopted a formal code of conduct that deals with personal behaviour of directors and key executives relating to insider trading, confidentiality, conflicts of interest and making use of corporate opportunities (property, information, position)? 1=Yes; 0=No
CG6	Does the company have a formal plan, policy or procedures in respect of equity (shares and options) based remuneration paid to directors and key executives? 1=Yes; 0=No
CG7	Does the company have a remuneration policy that outlines the link between remuneration paid to directors and key executives and corporate performance? 1=Yes; 0=No
CG8	Does the audit committee have at least one member that has financial expertise (i.e. is a qualified accountant or other financial professional with experience of financial and accounting matters)? 1=Yes; 0=No
CG9	Has the board adopted a formal integrated risk management policy that deals with risk oversight and management and internal control? 1=Yes; 0=No
CG10	Has the CEO/CFO stated that the company's risk management, internal compliance and control systems are operating effectively and efficiently? 1=Yes; 0=No
CG11	Does the company have an audit committee (AC) charter? 1=Yes; 0=No
CG12	Does the company have a formal written continuous disclosure policy? 1=Yes; 0=No
CG13	If percentage of independent directors on AC<median=0; if percentage of independent director on AC >=median=1

Description of Capital Management Items

CM1	Has the company engaged in capital raisings such as a new share issue in the current year?
CM2	Has the company engaged in takeover or merger activity in the current year?
CM3	Is the company listed on an overseas stock exchange?
CM4	Does the company belong to a corporate group that has operations overseas?

EVALUATION OF INDONESIAN LOCAL GOVERNMENT FINANCIAL DISCLOSURE LEVEL YEAR 2007

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ABSTRACT

In 2005 the Government issued Peraturan Pemerintah (PP or Government Decree) Number 24 Year 2005 about Standar Akuntansi Pemerintahan (SAP or Governmental Accounting Standard). This decree assigned the central and local government to report their financial transactions based on SAP. Although this decree will not be effective until 2011, but the preparation of central and local government in implementing the SAP has started since the release of PP No 24 in 2005.

This research acknowledged that up until now there have not been any empirical investigations about the development of central and local government's Financial Statement (FS) that refer to the SAP. Several previous researches focused on the theoretical assessment towards PP SAP, but not on the investigation of PP SAP implementation. The audit conducted by The Audit Board of Republic Indonesia (BPK RI) was also limited to the compliance of one FS or more with the guidelines in PP SAP, but not evaluating the government's FS in its entirety.

This research conducted an empirical investigation on the Financial Statement of Pemerintah Daerah (PEMDA or Local Government) in Indonesia in 2007. Initially, this research formulated and calculated the index of FS disclosure and FS components of each PEMDA with reference to SAP. The result showed that the disclosure level of Balance Sheet, Laporan Arus Kas (LAK or Cash Flow Statement) and Laporan Realisasi Anggaran (LRA or Budget Realization Report) tend to be high and consistent, whereas the disclosure level of Catatan atas Laporan Keuangan (CaLK or Notes to Financial Statement) tend to be low and consistent among all PEMDA.

Secondly, this research conducted an explorative investigation on factors influencing the disparity of FS disclosure level among all PEMDA and the quality variance of FS components. The consistency of PEMDA's FS disclosure level score showed that the influencing factors were common, faced by all PEMDA and not related with the unique characteristics of each PEMDA. The result of an in-depth discussion with regulators, standard formulators, practitioners and PEMDA staff showed that those factors were related to: (1) technical guidelines of CaLK formulation; (2) the effects of other regulations; (3) CaLK socialization and formulation training; (4) priorities and concerns toward FS; and (5) human resources.

Central government especially the Department of Finance and the Internal Affairs Department can use the result of this research to evaluate the readiness of PEMDA's FS disclosure in 2011. KSAP can utilize this research's checklist as an initial material in creating technical guidelines for CaLK formulation. PEMDA can use the result of this research for self-evaluation.

This research recommends strategic steps i.e.: (1) FS disclosure regulations integration; (2) career development for government accountants; and (3) empirical and academic assessments on legal outcomes/standards/regulations/ bylaws. Furthermore the tactical steps proposed by this research are: (1) CaLK technical guidelines formulations; (2) CaLK socialization and formulation training; and (3) prompt decision-making to solve current issues, such as fixed asset.

1. INTRODUCTION

Financial information disclosure and governmental financial disclosure practices have a considerable attention from all parties ever since 1998. This was caused by the policy of the Indonesian government to carry out an extensive reformation of all aspects especially the local financial aspect. This substantial reformation was marked by the change of government from the New Order era to the Reformed Order era. In local financial management, the reformed era was marked by the execution of decentralized government system specifically the local autonomy.

The research conducted by Halim (2002) revealed that local government financial reformation was marked by the implementation of UU no. 22 Year 1999 about Local Government and UU no. 25 Year 1999 about Financial Conformity of Central and Local Governments which replaced UU no. 5 Year 1974 about Local Governmental Items and UU no. 32 Year 1956 about Financial Conformity of the State with Self-Regulating Municipalities. Another package from the local (and central) government reformation was the release of PP no. 24 Year 2005 about *Governmental Accounting Standards* on 13 June 2005 that act as guidelines for the government, central and local, to perform accounting functions in the administration. Although PP SAP was released in mid 2005, the 2005 FS must be prepared according to PP SAP.

In his opening speech at the Training of Trainers (TOT) for SAP batch II, Mr. Timbul Pudjianto, General Director of *Bina Administrasi Keuangan Daerah* (BAKD or Local Financial Administration Guide) of the Internal Affairs Department, who was also the Consultative Deputy of KSAP, stated that of 476 PEMDA, whether it was province, municipality or town, only 212 PEMDA that had tried to present the 2006 FS according to SAP and *Peraturan Menteri Dalam Negeri* (Permendagri or Internal Affairs Minister Decree) no. 13 Year 2006 (http://www.ksap.org/detilberita37.php).

The aforementioned number was certainly expected to increase every year, so that in 2011 all PEMDA (and central government) can prepare and present an annual financial statement. Aside from the number, the FS quality is also expected to improve, in its

compliance with SAP as well as the reliability and relevance of the information presented and disclosed in the FS.

To ascertain that goal, an independent routine and periodical evaluation of the government FS preparation is needed. This evaluation is conducted comprehensively and is aimed to assess the completeness and quality of the FS as well as the subsequent strategic and tactical steps required to accomplish the 2011 target.

Apart from the review by BPK, until now there have not been any specific researches that evaluate the government FS preparation. Yuhertiana (2006), Bastian (2006) and Himawan (2006), for instance, focused their researches on the theoretical qualitative assessment of SAP technical bulletin which was issued by *Komite Standar Akuntansi Pemerintahan* (KSAP or the Committee for Governmental Accounting Standards), but did not conduct an empirical investigation on the FS preparation and presentation.

Meanwhile, the review by BPK focused more on PEMDA compliance level in their financial statement presentations with respect to various regulations, including SAP, but not evaluating comprehensively the readiness of PEMDA to present an extensive FS with quality. For example, several PEMDA had only prepared and presented one FS, but BPK gave an unqualified opinion as long as that FS complied with SAP. In other words, the assessment performed by BPK had not included completeness evaluation and the relevance of the information presented in the government FS.

Based on the abovementioned considerations, this research conducted the first empirical investigation on PEMDA's FS in Indonesia for 2007. At the first stage of this research a mapping of FS disclosure level of all PEMDA in Indonesia is performed, with regards to guidelines in PP no. 24 Year 2005. Afterwards, the factors that influenced the disparity of PEMDA's FS disclosure were investigated. Finally, a strategic and tactical proposal was formulated to increase the readiness and competence of PEMDA in presenting a reliable and relevant FS.

2. RESEARCH METHODOLOGY

The research procedure to calculate PEMDA's FS disclosure level is as such:

CHART 1 RESEARCH PROCEDURE AND DISCLOSURE QUALITY OUTPUT PEMDA'S

FS

The research procedure to explore the factors that influenced PEMDA's FS disclosure level was an in-depth discussion with the parties related to PEMDA's FS presentation. Conceptual framework is as such:

CHART 2 CONCEPTUAL FRAMEWORK OF PEMDA'S FS DISCLOSURE LEVEL

INFLUENCING FACTORS

After mapping PEMDA's FS disclosure level and identifying the influencing factors, eventually this research proposed strategic and tactical steps to improve PEMDA's readiness in presenting a relevant and reliable FS. This proposal is expected to help the government/regulators in formulating forthcoming policies to ensure the effectiveness of PP SAP implementation and other government regulations in 2011.

This research does not construct any hypotheses or research models to answer the research problems. The first research problem about PEMDA's LK disclosure level will be resolved by calculating the disclosure index. An analysis will be conducted based on the descriptive statistic result of the disclosure level index score.

For the second research problem about the influencing factors of PEMDA's FS, this research used an explorative approach, which was to freely identify those factors obtained from literature studies and interviews with parties related to the preparation of PEMDA's FS.

As for the third research problem about the strategic and tactical proposals to improve the quality of PEMDA's FS disclosure, they will be achieved by mapping the disclosure index and the influencing factors. Therefore in general it can be concluded that this research does not propose any hypotheses that will be tested or any research models to test those hypotheses.

The research variables used were local government's FS disclosure level index and the influencing factors. Local government's FS disclosure index is the FS disclosure index based on PP SAP. This research developed a checklist based on PP SAP. PEMDA's FS were evaluated based on the checklist and the score from the completed checklist was calculated. Each checklist component would get a score of 1 (one) if the information was disclosed or **Yes**, 0 (zero) if the information was not disclosed or **No** or **N.A.** (not applicable) if it was assumed that PEMDA did not have the related information. Disclosure level score is obtained from comparing the number of **Yes** with the number of **Yes** and **No**. The checklist consisted of the checklists for Balance Sheet, LAK, LRA and CaLK. Meanwhile the operating

variables that represent the influencing factors were obtained from literature studies and thorough interviews.

Research population was 530 PEMDA of provinces, cities and municipalities. Of this number, based on the data from BAKD and BPK's website (www.bpk.go.id), a sample research of such was obtained:

- 266 PEMDA with 2007 Balance Sheet (50,4% of total population);

- 269 PEMDA with 2007 LAK (50,8% of total population);

- 267 PEMDA with 2007 LRA (50,6% of total population); and

- 267 PEMDA with 2007 CaLK (50, 6% of total population).

This data was obtained directly from the Indonesian State Department's BAKD and BPK's website. The sample above had exceeded the number of all PEMDA with 2006 FS, which was 212 PEMDA. Meanwhile the data about influencing factors was acquired from interviews with parties related with the preparation of PEMDA's FS.

In overall this research used two data analysis techniques. The first was descriptive statistics to analyze PEMDA's LK disclosure level. The second was explorative to analyze the influencing factors by literature studies and interviews.

3. RESULT AND REVIEW

The initial result of this research was PEMDA's FS disclosure level, at provinces, towns and municipalities. This disclosure level was obtained from the checklist score (see research method sub-part variables operation). Disclosure level review below is presented based on FS components and on overall FS.

3.1 BALANCE SHEET DISCLOSURE LEVEL

Disclosure level average was fairly high at 84%. This showed that the information presented in the balance sheet had included all information required by PP SAP. The

deviation standard was very low at 5%, which showed that the balance sheet disclosure level among PEMDA was relatively consistent.

The highest score of 96% were the Pekanbaru, Ogan Komering Ulu, East Ogan Komering Ulu, Pagar Alam, Prabumulih, Batang, Landak, South Halmahera, Jayapura, Bau-bau, Jayapura and Nunukan; whereas the lowest at 60% was DKI Jakarta. The information disclosed by most local governments but not found in DKI Jakarta were: (1) inventory details; (2) receivables details; and (3) equity funds classification.

As for the ranks based on the average score per province, PEMDA from eastern Indonesia dominated the top 5: Papua, North Maluku, West Papua, West Sulawesi and East Kalimantan (average above 90%). However four of the five provinces had very low ratio of balance sheet issued and reviewed by BPK to total number of PEMDA in the province. Papua, for instance, although it had the highest score of 96%, there were only 2 provinces in Papua that had issued the 2007 balance sheets which had been audited by BPK, compared to the total 30 PEMDA in Papua province. Based on the ratio of number of PEMDA with issued FS to number of PEMDA in a province, then East Java, DI Yogyakarta, West Java, Bali and Gorontalo were placed on the top 5.

Meanwhile the analysis of the information component in the Balance Sheet showed 5 information with the lowest disclosure:

1. Name of reporting entity or other identification visible on every page;

2. Scope of FS entity, whether it was a sole entity or a consolidation of several reporting entities;

3. Scope of FS entity, whether it was a sole entity or a consolidation of several reporting entities, on every page;

4. Date of reporting or the period included in the FS in accordance with other components of the FS visible on every page; and

5. Reporting currency and quantifier visible on every page.

Of the abovementioned information, four did not have significance for decision making (although this had better be included in PEMDA financial reporting). The low disclosure level of point 2 is something substantial because it affects the readers of the FS greatly. The absence of this information may result in an error in comparing and analyzing PEMDA's performance.

3.2 LAK DISCLOSURE LEVEL

Research sample for LAK component was 269 PEMDA or 50.8% of total population. Like Balance Sheet, the average LAK disclosure level was high at 83%. This showed that the information presented in LAK had included most of the information required by PP SAP. The deviation standard was very low at 4% which showed that the LAK disclosure levels tend to be consistent.

The highest score of 96% was Landak, Rokan Hulu, Natuna, Malinau, Belitung and Tidore. Landak consistently showed high disclosure level, both Balance Sheet and LAK. The lowest score of 74% was Banten. Some information disclosed by most PEMDA but not by Banten was: (1) reporting currency and quantifier used; and (2) presented as comparative statement.

The top 5 provinces based on average score were West Sulawesi, North Maluku, West Papua, DKI and Riau (average score above 89%). Top 3 were North Sulawesi, North Maluku and West Papua, consistent with Balance Sheet disclosure. East Kalimantan and Papua were still in Top 10 (at 6 and 8). Riau was in fact consistent because it was number 6 in Balance Sheet disclosure. The contrary was DKI's LAK disclosure level at number 4, when its Balance Sheet disclosure level was at the lowest.

As with Balance Sheet, the top 4 provinces' ratio of number of PEMDA issuing LAK that had been audited by BPK to total number of PEMDA in the province was very low. West Sulawesi, although with the highest score at 95%, there was only 1 PEMDA issuing 2007 LAK that had been audited by BPK, compared to the total of 6 PEMDA in that province.

Consistent with the Balance Sheet result, the ratio of number of PEMDA with issued FS to number of PEMDA in a province showed DIY, Bali, East Java, West Java and Gorontalo at the top 5 with a high ratio at above 80%.

The analysis result of LAK's information components showed 4 points with the lowest disclosure:

1. Name of reporting entity or other identification visible on every page;

2. Scope of FS entity, whether it was a sole entity or a consolidation of several reporting entities;

3. Scope of FS entity, whether it was a sole entity or a consolidation of several reporting entities, on every page; and

4. Reporting currency and quantifier visible on every page.

This result is consistent with the Balance Sheet result and of those 4 points the low disclosure level of point 2 is substantial because it affects the readers of the FS greatly. The absence of this information may result in an error in comparing and analyzing PEMDA's performance.

3.3 LRA DISCLOSURE LEVEL

Sample number for LRA component was 267 PEMDA or 50.6% of PEMDA population. Unlike Balance Sheet and LAK, LAR's average is quite high at 78%. This showed that the information presented in PEMDA's LRA had included most of the information required by PP SAP. The deviation standard was very low at 5%, and showed that the LRA disclosure levels tend to be consistent.

The highest score of 90% was Pekanbaru, Natuna, DKI, Ketapang, Bulungan, Kendari, Bau-bau, South Halmahera, Jayapura, Manokwari and Bengkulu. The lowest at 60% was North Hulu Sungai. Information disclosed by most PEMDA but not by North Hulu Sungai was: (1) transfer; (2) surplus/deficit; and (3) net financing.

The top 5 provinces based on average score were DKI, West Sulawesi, NAD, North Maluku and Papua (average score above 84%). Other than NAD and DKI, 3 other provinces were consistent enough with high scores in Balance Sheet and LAK. DKI was consistent at LAK and LRA, while NAD, although not in the top 5 in Balance Sheet and LAK, but its score was consistently high, at above 80%.

Further analysis revealed that the top 5 provinces' ratio of number of PEMDA with LRA that had been reviewed by BPK to the total number of PEMDA in that province is very low. DKI, although with the highest score at 90%, had only 1 PEMDA with 2007 LRA that had been audited by BPK, compared with the total 7 PEMDA in that province. Consistent with the result in Balance Sheet and LAK, the ratio of number of PEMDA with issued FS to number of PEMDA in a province showed DIY, Bali, East Java, West Java and Gorontalo at the top 5 with a high ratio at above 85%.

The analysis result of LRA's information components showed 6 points with the lowest disclosure:

1. Name of reporting entity or other identification visible on every page;

2. Scope of FS entity, whether it was a sole entity or a consolidation of several reporting entities;

3. Scope of FS entity, whether it was a sole entity or a consolidation of several reporting entities, on every page;

4. Reporting currency and quantifier;

5. Reporting currency and quantifier visible on every page; and

6. Presentation of disbursement qualifications based on organizations.

This result is consistent with the Balance Sheet and LAK results. Point 6 needs particular notice because this information is needed by LRA users to evaluate the efficiency of organization unit, by comparing the realization and the budget.

3.4 CaLK DISCLOSURE LEVEL

Sample number for CaLK component was 267 PEMDA or 50.6% of PEMDA population. Unlike Balance Sheet, LAK and LAR, CaLK disclosure level was low at 47%. This showed that the information presented in CaLK had not included most of the information required by PP SAP. Standard deviation was low at 9% and showed that the CaLK disclosure levels tend to be consistent.

The highest score of 68% was West Sumatera, while the lowest at 11% was North Kolaka. The top 5 province based on average score were NTB, Bali, DIY, NTT and East Kalimantan (average score above 54%). This composition differed greatly from the result of Balance Sheet, LAK and LRA. Although those 5 provinces were not at the top 5 of Balance Sheet, LAK and LRA, but their disclosure levels were above 80%.

Further analysis showed the top 3 provinces, NTB, Bali and DIY had the highest ratio of the number of PEMDA with CaLK that had been reviewed by BPK to total number of PEMDA in that province. NTB had the highest CaLK score of 56% and the number of PEMDA with CaLK in 2007 that had been audited by BPK were 9 out of 11 PEMDA.

Besides that, consistent with the results of Balance Sheet, LAK and LRA, the ratio of number of PEMDA with issued FS to number of PEMDA in a province showed DIY, Bali, East Java, West Java and Gorontalo at the top 5 with a high ratio at above 83%.

Meanwhile the analysis result of CaLK information component showed low disclosure level. Of 286 checklists, more than 55% scored below 50% or nearly 75% scored below 70%. Based on an in-depth analysis of CaLK presentation it was discovered that although several information component had been presented, the contents were merely details of posts included in Balance Sheet, LAK and LRA, without other economical explanation (this research was not designed to provide substance over disclosure quality, merely to quantify the number of disclosures). Moreover, several information component of CaLK especially the part about the general policy of the disclosed information, had not illustrate the fiscal/financial policy and macro economy related to APBD (Local Revenue and Expenditure

Budget) and APBD accomplishments. This happened also on the information about performance.

3.5 OVERALL DISCLOSURE LEVEL

Overall this research analyzed the 2007 FS disclosure of 277 PEMDA (55.7% of total PEMDA in Indonesia). This number is improved compared to BAKD's data that stated that there were 212 PEMDA with FS in 2006. However not all PEMDA issued a completed and BPK-audited FS. The composition of sampled PEMDA based on FS components issued are as such:

1. 255 PEMDA issued all 4 FS components in 2007 and were audited by BPK (92.1% of total sample or 51.3% of total PEMDA population);

2. 10 PEMDA issued 3 FS components in 2007 and were audited by BPK (3.6% of total sample or 2% of total PEMDA population);

3. 7 PEMDA issued 2 FS components in 2007 and were audited by BPK (2.5% of total sample or 1.4% of total PEMDA population); and

4. 5 PEMDA issued 1 FS component in 2007 and were audited by BPK (1.8% of total sample or 1% of total PEMDA population).

The number and composition of this research sample is credible enough so that the result will be representative of the financial reporting condition of all PEMDA in Indonesia in 2007.

To see the overall disclosure level is to calculate the average score unweighted for the 4 components of FS in 2007. Result shows that the top 5 PEMDA are Pekanbaru (Riau), Dumai (Riau), Natuna (Riau), Malinau (Kaltim) and Nunukan (Kaltim). All 5 PEMDA consistently have high scores for Balance Sheet, LAK and LRA disclosure at above 90% and CaLK disclosure score at above 50%. Whereas the lowest 5 PEMDA are Lubuk Linggau (Sumsel), Bangka Barat (Babel), Pulang Pisau (Kalteng), Gorontalo (Gorontalo), South Minahasa (Sulut). These 5 PEMDA consistently have Balance Sheet, LAK and LRA disclosure score below 80% and CaLK disclosure level below 37%.

Evaluation based on average score of disclosure level for all FS components of PEMDA in each province showed the top 5 are West Sulawesi, North Maluku, Riau, East Kalimantan and Riau. However just like FS components analysis, the number of PEMDA in each province must be calculated to interpret those rankings. For Riau and East Kalimantan, disclosure score were obtained from the average of 6 and 8 PEMDA, so they are valid enough as the provinces with the highest disclosure level. Meanwhile 3 other provinces, West Sulawesi, North Maluku ad Riau, precautions must be taken when concluding that these provinces have the highest score, considering each were affected by less than 3 PEMDA.

3.6 FS DISCLOSURE LEVEL DETERMINANTS

This section will analyze the determinants or factors influencing the disparity of FS disclosure level among PEMDA and the difference among FS components. The analysis is based on the aforementioned disclosure level scores, literature studies and in-depth discussion with regulators, reviewers, standard formulators, consultants and PEMDA staff (discussion participants were invited as individuals and were not acting on behalf of any institutions, however opinions were assumed to reflect the institutions where they work).

Disclosure score for each component (Balance Sheet, LAK, LRA and CaLK) tend to be consistent among PEMDA. This is noticeable from the standard deviation of below 5%. The same applies for the standard deviation of all FS disclosure at 4%. Therefore this research concludes that the influencing factor of PEMDA's FS disclosure do not come from the unique characteristics of each PEMDA. In other words this research estimates that the factors influencing PEMDA's FS disclosure level are common and experienced by all PEMDA in Indonesia. Moreover, because the disclosure level of Balance Sheet, LAK and LRA are high and consistent enough, then the determinants analysis of disclosure level will be focused on CaLK.

These are the common factors that are assumed to influence PEMDA's FS disclosure level (specifically CaLK), which were identified in the Focus Group Discussion:

1. Existence and completeness of CaLK preparation guidelines

   SAP regulates the information required to be disclosed in CaLK (as checklist benchmark in this research). However until now no technical guidelines about CaLK presentation and disclosure are present. KSAP have not issued a Technical Bulletin regarding CaLK. A technical guideline for CaLK preparation is necessary for PEMDA in the early stages of FS preparation because CaLK (and Balance Sheet) are the reports known only after PP SAP was implemented. CaLK is qualitative, thus without technical guidelines PEMDA will face difficulties in preparation.

2. Influence of other regulations

   Besides to explain the posts in Balance Sheet, LAK and LRA in details, CaLK also conveys qualitative information related to the accountability and/or affects decision making. Those information are influenced by other regulation associated with local governments. Changes in regulations which happen frequently in recent years make it difficult for PEMDA to decide which information to disclosure in CaLK. Regulation clashes also cause difficulties for PEMDA in presenting a sufficient CaLK.

3. Socialization of CaLK preparation

   Related parties such as Finance Department, State Department and KSAP have not conducted sufficient socialization about CaLK. Various trainings that have been conducted only focused on Balance Sheet, LAK and LRA components. Therefore PEMDA staffs do not have adequate comprehension about CaLK.

4. Priorities and concerns of FS formulator and user

   Generally, both PEMDA and DPRD do not have sufficient concerns about FS (except LRA and LAK). DPRD usually does not consider BPK's opinion of FS when accepting or rejecting accountability report of head of local government. FS components priority of concern is: (1) LRA; (2) LAK; (3) Balance Sheet; and (4) CaLK. LRA and LAK get primary

concerns because these reports have been around for a while and are considered to have direct effect on the execution of PEMDA's activities/programs. Attention towards Balance Sheet was developed with the prerequisite to create an initial Balance Sheet with technical guidelines and sufficient socialization. CaLK is the FS component with the least priority and is not equipped with adequate socialization.

5. <u>Human resources</u>

    PEMDA has limited human resources in FS preparation. Aside from the lack of accounting graduates, an accountant's career steps in PEMDA have not been developed. Any staffs with additional education and SAP trainings are often transferred to other divisions so there is no knowledge transfer in FS preparation.

Aside from the factors above, FGD also revealed several opinions related to PEMDA's FS presentation, such as:

1. FGD participants also confirmed the result of this research, that PEMDA's FS disclosure level, especially CaLK is still low and not compliant with PP SAP. In fact, several FGD participants thought that the preparations of many PEMDA's FS were mostly copying previous PEMDA FS.

2. Legal outcomes/laws/bylaws, especially ones related to PEMDA's financial reporting, have not been tested academically and empirically by independent parties. This testing is necessary to objectively assess the implementation and limitation of related regulations so they can be perfected.

3. Other reports that PEMDA must prepare aside from FS are numerous and complex. This will affect the quality of the reports prepared by PEMDA. The number of reports to be prepared is organized by many conflicting regulations. Therefore it is proposed that research about various regulations related to these reports must be conducted to analyze the possibility of information convergence. If possible in the future PEMDA will only prepare one report which can fulfill the minimum amount of information needed by various parties.

4. Most PEMDA do not have a sufficient information system to support transactions documentation and financial reporting presentation.

5. Fixed asset is still the most dominant issue faced by PEMDA.

Overall it can be concluded that the factors influencing the disclosure level of PEMDA's FS are common and apply to all PEMDA. Therefore central government has an important a dominant role to resolve this problem.

3.7 RECOMMENDATIONS

In the attempt to achieve the 2011 target that all PEMDA may present a comprehensive and relevant FS, based on the aforementioned analysis, this research recommends 3 strategic steps (executed in less than a year) as such:

1. Regulations integration about financial reporting. To simplify FS preparation by PEMDA and to minimize the possibility of regulation disagreement, efforts to reassess and to integrate issued regulations are necessary.

2. Accounting career advancement in PEMDA. To give assurance to and attract PEMDA staff to have a career in Accounting, PEMDA (and central government) must develop career steps for an accountant. Therefore organization structure and compensation structure at central and local government must be evaluated to accommodate this need; and

3. Assessment of laws/ regulations/ bylaws, especially those related to PEMDA's FS. To ensure the effectiveness and efficiency of law outcomes, cooperation with academicians and researchers must be created to conduct academic and empirical testing.

Besides those strategic steps, this research also recommends tactical steps for the following year, such as:

1. Formulation of CaLK technical guidelines or bulletin. The checklist developed by this research can be used as initial material to construct CaLK technical bulletin. However, note that the current SAP base must be adjusted into accrual base;

2. Training and socialization of CaLK formulation. To complement the various FS preparation trainings and socializations, it is suggested to also conduct CaLK formulation training and socialization; and

3. Initiatives to solve the challenge of fast, accurate and conforming PEMDA's FS. To settle various issues in recent years, regarding fixed asset and information system, both PEMDA and central government must take prompt initiatives to address the problems immediately.

4. CLOSING

4.1 CONCLUSION

Calculation result of disclosure level score for Balance Sheet, LAK and LRA showed that PEMDA's FS disclosure level for three FS components is fairly high and the deviation standard is low, showing a consistency of disclosure level among PEMDA. Meanwhile CaLK score showed very low disclosure level that applied to all PEMDA in Indonesia. The consistency of PEMDA's FS disclosure level score showed that the influencing factors were common to all PEMDA and not related to the unique characteristics of each PEMDA.

Central government specifically Finance Department and State Department can use the result of this research to evaluate the readiness of PEMDA's FS presentation in 2011. KSAP can use the checklist of this research as an initial material in formulating the CaLK formulation technical guidelines. PEMDA can use the result for self-evaluation/

4.2 LIMITATIONS

This research is one the first empirical studies related to PEMDA's FS; therefore there were several limitations in this research, such as:

1. This research found difficulties in getting the FS issued by PEMDA aside from the ones in www.bpk.go.id. Most PEMDA's websites do not include FS. Direct procurement to PEMDA was improbable due to time constraint and bureaucracy. BAKD data source

was limited due to inadequate filing system. Consequently there are possibilities that several PEMDA's FS are not included in the research sample;

2. This research is aimed to reveal descriptively the disclosure level of PEMDA's FS, therefore the result of this research cannot provide any evaluation about the quality of information presented in PEMDA's FS; and

3. This research emphasize on the usage of secondary data of PEMDA's FS, literature studies and discussion with parties related with PEMDA's FS preparation. Due to budget and time limitation, this research did not conduct a broad confirmation to all sampled PEMDA.

4.3 SUGGESTIONS

Based on the aforementioned results, several things may be developed in subsequent researches, such as:

1. Conduct an empirical research about the integration of financial and non-financial reporting of PEMDA by reevaluating all regulations related to reporting;

2. Expand this research by using research methodology of case study or questionnaire; and

3. Develop this research by performing statistical testing about influencing factors and the effect of disclosure level towards decision making.

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6.2 Auteting

CORPORATE GOVERNANCE QUALITY, AUDIT FEES
AND NON-AUDIT SERVICES FEES

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ABSTRACT

Introducing a new composite measure of audit committee effectiveness (ACE), comprising independence, expertise and diligence, we investigate the relationship between corporate governance quality and auditor remuneration in the UK. In contrast to Carcello et al. (2002, Contemporary Accounting Research), we find that after controlling for board of director characteristics, there is a significant positive association between ACE and audit fees (AF). We also find that ACE has a negative significant effect on level of non-audit services (NAS) fees. Overall, our findings support regulatory initiatives aimed at improving corporate governance amid concerns about audit quality and impairment of auditor independence.

Keywords: audit committees, corporate governance, non-executive directors, audit fees, non-audit services, audit quality.

JEL codes: M41, M42, M48

1. INTRODUCTION

The purpose of this paper is to investigate the relationship between corporate governance quality, in particular audit committee effectiveness (ACE), and non-audit services (NAS) fees and audit fees (AF) in the UK. Following post-Enron regulatory reforms a number of US studies have provided evidence on the relationship between corporate governance and audit (e.g. Carcello et al., 2002; Larcker and Richardson, 2004) and NAS (e.g. Ashbaugh et al., 2003; Kornish and Levine, 2004; Krishnan et al., 2005) fees. There is limited evidence however from less regulated environments on the influence of governance quality on auditor remuneration. Given regulatory concerns about audit quality the influence

of corporate governance on auditor remuneration in the UK is an important research issue. First, there is no recent UK research evidence on this. We are not aware of any research since Collier and Gregory (1996) and O'Sullivan (2002), which is based on 1992 data for the UK insurance industry, that have sought to examine the relationship between corporate governance quality and auditor remuneration in the UK. The importance of this issue is also addressed in the Smith report (2003) which emphasised the quality and effectiveness of audit committee as an important condition for effective governance (sec.4.2) but it stopped short from clearly defining effective audit committees. Second, most recent ~~prior~~ corporate governance studies investigated the association between audit committee characteristics and the level of AF paid to the audit firm (Goodwin-Stewart and Kent, 2006) and the relationship between NAS fees and auditor independence (Hay et al., 2006a). This paper extends such literature by offering a composite measure for audit committee effectiveness as possible determinant to explain both audit and NAS fees.

Existing research mostly predates the corporate scandals of 2000/1 and while providing some evidence of corporate governance effects, they do not examine the influence of ACE on auditor remuneration after controlling for governance (/board) characteristics. There is now a significant body of research on audit committees (see DeZoort et al., 2002; Turley and Zaman, 2004), but research evidence on the relationship between governance quality and auditor remuneration is quite limited. In a meta-analysis of AF research, Hay et al. (2006b) observed that research examining the relationship between corporate governance and AF is not only limited but also preliminary findings indicate conflicting results. Similarly, in a review of the audit committee literature, Turley and Zaman (2004) found that despite the considerable volume of research on AF, evidence of audit committee effects on fees is rather limited. They noted that different rationales suggest that audit committees

could result in increased or decreased fees. If an audit committee seeks to enhance audit quality, the impact could be to increase the AF. Conversely, if existence of an audit committee is associated with increased internal control strength, a reduced fee would be expected.

Our focus in this paper is on examining whether governance quality, i.e. level of the control environment, is associated with higher level of AF and lower level of NAS fees. We seek to contribute to the literature relating to ACE through empirically testing for its influence on auditor remuneration. ACE is not a construct that can be easily modelled for empirical testing. The major constraint being the public availability of data and/or the ease with which it can be obtained and as such we focus on a composite measure of three dimensions of ACE – *independence* of audit committee members, the *financial expertise* of the audit committee, the *diligence* (number of meetings) of the audit committee. These three dimensions have been the subject of governance codes both in the UK (see for example Smith Report, 2003) and elsewhere but often discussed separately from each other. Regulatory requirements and recommendations concerning these dimensions of the audit committee are premised on their potential contribution to audit quality, which includes ensuring that auditor independence is not compromised by the potential influence of NAS fees. In empirically examining the influence of ACE on (a) AF and (b) NAS fees we use a composite measure for ACE, i.e. the audit committee has a member with financial expertise, meets at least three times a year, and is composed of non-executive directors. We expect ACE to be associated with higher level of AF as audit committees exercise greater oversight over the audit process. As noted by Abbott et al. (2003) audit committees can demand a greater quantity of effort from the existing external auditor and if greater effort (i.e. a wider audit scope) is associated with increased quality, then the audit committee's efforts will be

associated with increased quality. Research evidence suggests that audit committees can have a direct influence on the scope of the external audit (Carcello et al., 2002; Turley and Zaman, 2007). The joint provision of audit and NAS creates a potential perception that auditors might compromise their independence, and be unduly driven by a desire to maintain their clients to preserve their audit and NAS fee income. Effective audit committees are likely to be averse to high levels of NAS fees; we therefore posit that ACE will have a negative association with NAS fees.

Our analysis of the influence of ACE, using a sample of 400 company-year observations for the period 2001-2004 randomly drawn from the UK FTSE, confirms our expectations. We find that ACE has a significant positive association with AF. The influence of ACE on NAS fees is significant and negative, i.e. the higher the ACE, the lower the purchase of NAS by the audit client. Overall, our results are consistent with the view that effective audit committees demand higher quality audit and protect auditor independence.

2. PRIOR RESEARCH AND HYPOTHESES DEVELOPMENT

Corporate governance reforms are aimed at improving the quality of financial reporting and external audit. Recommendations concerning both board of directors and audit committee structures and processes in governance codes place greater emphasis on the need to ensure the reliability of financial statements. The scope of the external audit has potentially significant affect on the reliability of financial statements. Equally important as the scope of the audit is the potential impairment of auditor independence that may result from undue influence associated with the joint provision of audit and NAS to the client. The provision of NAS has been argued in many studies to impair auditor independence (see for example Barkess & Simnett, 1994; Beattie et al., 1999). Effective audit committees protect auditor independence by taking the responsibility of remunerating and appointing the auditor away from management, and providing an independent platform for auditors to express their opinions on management policies. They can also affect audit quality particularly through their influence on scope and conduct of the audit.

Turley and Zaman (2004) observe that despite the considerable volume of research on AF, evidence of audit committee effects on fees is rather limited. One difficulty is that different rationales suggest that the existence of audit committees could result in increased fees or decreased fees. If an audit committee seeks to enhance audit quality, the impact could

be to increase the AF. Conversely, if existence of an audit committee is associated with increased internal control strength, a reduced fee would be expected. Collier and Gregory (1996) examined these propositions and found a significant positive relationship for the first but no significant relationship for the second. The authors conclude that 'there is no conclusive evidence to suggest that (audit committees are) effective in engendering a stronger internal control environment that is reflected in reduced audit fees' (p.195). Evidence that the proportion of non-executive directors has a positive and significant impact on AF, which is consistent with increased non-executive representation encouraging more extensive auditing, is provided by O'Sullivan (2000) based on an examination of the 1992 fees of 402 UK companies. Intriguingly, however, this research did not test whether the presence of an audit committee affects AF, but a study by the same author (O'Sullivan, 1999) using the 1995 audit fees for a sample of 146 UK companies found no evidence that board and audit committee characteristics influence audit pricing. The study by Goodwin-Stewart and Kent (2006) based on a survey of 401 Australian companies found the existence of audit committee, more frequent committee meetings and increased use of internal audit are related to higher AF. However, they considered those variables independently and did not hypothesise them as being a composite measure for ACE and only considered the impact on AF only.

We extend prior work by considering UK data and incorporating into our research the interactive effects of the three AC elements viz. *independence*, *financial expertise* and *diligence* (number of meetings) as a proxy for ACE in both the AF and NAS models. We recognise that various explanatory factors suggested in the literature may intervene in the process and have complex relations with audit and NAS fees. Thus, we included in our models a number of control variables that were missing in the Goodwin-Stewart and Kent (2006) study but which were deemed necessary in AF and NAS fees literature. These variables are further discussed in section 2.2.

Given the paucity of research on the relationship between corporate governance quality and auditor remuneration in the UK, we believe that our paper makes an important contribution. Specifically, in this paper we examine the influence of audit committee effectiveness (ACE) on both audit and NAS fees. Although individually independence of the audit committee, the possession of financial expertise, and frequent meetings are important considerations, we believe it is the interaction of such characteristics that is likely to have most impact on audit quality. We therefore focus on the joint effect of these dimensions as an empirical proxy for ACE. Below we develop our hypotheses and explain the models variables:

(i) AC Effectiveness (ACE) – the composite measure

We believe that for audit committees to be effective they must at least exhibit three characteristics. First, audit committees must be independent of management. Second, the audit committees must be active, i.e. meet at least certain times a year. Third, the membership of the committee must include a director with relevant financial expertise. We combine some independent variables, explained below, to form a new construct called ACE (audit committee effectiveness). ACE is thus a dichotomous variable equal to 1 when (i) the audit committee membership consists of all independent non-executive directors, (ii) has a member with financial expertise and (iii) meets at least 3 times a year. The remainder of this section develop our hypotheses relating to ACE that will be tested in the study.

Independence: Directors who are independent of management are expected to be more interested in auditor quality and are more likely to believe that the provision of high levels of NAS by the auditor may impair auditor independence. Prior research suggests that audit committees which are independent of management are likely to be averse to high levels of NAS. Abbott et al. (2003) noted, for example, that independent audit committee's concern for auditor independence can have a direct or indirect affect on the purchase of NAS. The perceived threat to independence could result in the audit committee monitoring the provision of NAS. Alternatively, an independent audit committee may not be directly involved in the purchase decision. Nevertheless it is possible that management may voluntarily reduce the level of NAS in anticipation of the potential concern of the audit committee. For this reason, we incorporated the independence variable in our composite measure for ACE.

Financial expertise: The financial expertise of the audit committee forms the second component of our test variable, ACE. Prior research has established that for audit committees

to be effective, their membership needs to include a member with relevant financial expertise. Corporate governance codes do vary as to the specification of the level or nature of financial expertise. Nonetheless, research shows that audit committee members without financial experience may not be strong enough to protect auditor quality (Knapp, 1987; DeZoort et al. 2002, Turley and Zaman, 2004). We expect that audit committees which have at least one member with financial expertise is likely to be concerned about audit quality and thus have a positive association with AF and a negative association with NAS fees. Thus, it is necessary to incorporate this variable in our composite measure for ACE.

Meetings: For an audit committee to be effective, it must be active. Audit committee meetings are thus the third component of our test variable ACE. Prior research has established the importance of active committees for the oversight of the financial reporting and auditing process. Regular meetings provide opportunity for the audit committee to monitor audit quality. Meeting frequency can be a signal of audit committee diligence (Menon and Williams, 1994) and has been associated with reduced likelihood of fraud (Beasley et al., 2000) and financial restatement (Abbott et al., 2003). We believe that active committees are likely to exert a positive influence on audit scope, which in turn will be reflected in higher AF and a negative influence on NAS. Thus, it is necessary to incorporate this factor as part of our ACE measure. Overall, based on the above discussions, we expect our composite measure, ACE, to have a negative effect on NAS fees and a positive effect on AF. Hence, our two hypotheses are as follows:

> H_1: *Ceteris paribus, there is a negative relationship between ACE and the level of non-audit services fees.*

> H_2: *Ceteris paribus, there is a positive relationship between ACE and the level of audit fees.*

In testing the above hypotheses we wish to control for additional corporate governance, in particular board of director related, factors which may potentially have an influence on the level of audit and/or NAS fees. In this respect our paper has a further secondary aim which is to examine whether ACE has influence on auditor remuneration after taking into account board of director effects. Here we note that the US study of Carcello et al. (2002) on board characteristics and AF based on a sample of Fortune 1000 companies with fiscal years ending between April 1992 and March 1993 found that "audit committee variables provide no incremental explanatory power when the board characteristics are included in the model". Their results showed that "none of the audit committee variables is significantly related to audit fees". We find the Carcello et al (2002) result puzzling. We believe that given that audit committees have specific oversight responsibility for financial reporting and external audit, after controlling for the board director and additional audit committee related characteristics, our test variable ACE will have a significant positive association with AF and a negative significant association with NAS fees.

(ii) Control variables

In testing for the influence of ACE we control for the following corporate governance and agency related variables. Our first two control variables are actually related to the audit committee chair which may potentially affect its independence and expertise. First, we include a variable *ACCS* (audit committee chair holds shares in the company) to test whether the shareholding has any affect on AF and NAS fees. Second, we also test whether the number of additional directorships (*TAD*) held by the audit committee chair exerts an influence on the level of audit and NAS fees. The holding of additional directorships has been used in prior research as a proxy for audit committee chair's expertise (Carcello and Neal, 2003); however its effect on auditor remuneration has not been investigated. Carcello et al

(2002) have used a similar concept, directorships – average number of outside directorships in other firms held by outside directors, in examining the influence of board characteristics on audit fees and found that it had a positive significant effect. The extension of our model to test for the effects of both *TAD* and *ACCS* is particularly relevant given that over time, governance codes have sought to tighten the definition of audit committee independence and restrict (or at least discourage) non-executive directors from holding shares in the company and from taking on too many directorship appointments in other companies (see Collier and Zaman, 2005). The latest Combined Code on Corporate Governance (FRC, 2006) in the UK for instance recommends that audit committees should consist entirely of independent directors with no interest in the company they serve.

In addition to the above two audit committee chair variables incorporated into ~~in~~ our model, we also control for the effect of number of board meetings. Similar to our discussion earlier about audit committee meetings, the number of board meetings (*BDM*) can indicate the level of diligence exercised by the board of directors. Carcello et al. (2002) confirmed high frequency of board meetings could indicate higher level of control in the company and thus could be associated with audit fees. The composition of the board of directors is also a potentially important factor affecting audit quality. We also control for the proportion of non-executive directors on the board (*PNED*). Non-executive directors have an interest in protecting their reputation and avoiding potential financial loss that may result from litigation by increasing audit quality (see Young (2007) for a discussion of non-executive directors). It is possible that in companies with a high proportion of non-executive directors, there will be a high level of concern about audit quality which in turn would be reflected in a positive association with audit and a negative association with NAS fees. We control for a third factor relating to board of directors – *duality* (whether the board chair is also the company's chief executive officer) that may potentially influence audit quality. As noted by Collier and Gregory (1996) board duality can have a potentially adverse influence on audit quality and audit committee activity.

Finally, following the literature on AF we control for a number of company related variables which have been hypothesised in the literature to be associated with auditor remuneration. These include: auditor type (*BigFour*), company size (*lnTA*), company complexity (*lnSubs*), level of risk proxied by leverage (long term debt to total assets) (*Lev*) and whether the company made any acquisitions *(Acq)* or incurred a loss *(Loss)* in the previous two years. Our final control variable relates to the concentration of ownership. Consistent with Firth (1997) we use a variable number of shareholders with 5% or more shareholdings *(NSH5)* to test if it has an influence on audit and NAS fees.

(iii) Regression Models

Consistent with prior literature on AF we use a single equation approach to test our hypotheses relating to the influence of ACE on audit and NAS fees. The OLS regression models are as follows:

$$\ln NAS_{it} = \beta_0 + \sum_{i=1}^{3} \delta_{itx}(ACE) + \beta_2 TAD_{it} + \beta_3 ACCS_{it} + \beta_4 PNEDB_{it} + \beta_5 BM_{it} + \beta_6 Duality_{it}$$
$$+ \beta_7 NSH5_{it} + \beta_8 Size_{it} + \beta_9 Lev_{it} + \beta_{10} \ln Sub_{it} + \beta_{11} Big4_{it} + \beta_{12} Loss_{it}$$
$$+ \beta_{13} Acq_{it}$$

Model 1

$$\ln AF_{it} = \beta_0 + \sum_{i=1}^{3} \delta_{itx}(ACE) + \beta_2 TAD_{it} + \beta_3 ACCS_{it} + \beta_4 PNEDB_{it} + \beta_5 BM_{it} + \beta_6 Duality_{it}$$
$$+ \beta_7 NSH5_{it} + \beta_8 Size_{it} + \beta_9 Lev_{it} + \beta_{10} \ln Sub_{it} + \beta_{11} Big4_{it} + \beta_{12} Loss_{it}$$
$$+ \beta_{13} Acq_{it} + \varepsilon_{m1}$$

Model 2

Where:

Independent variables	
lnNAS	– natural logarithm of non-audit services fees
lnAF	– natural logarithm of audit fees

Dependent variables:	
ACE:	– Audit Committee Effectiveness. An audit committee is effective when $[(ACI = 1) + (ACX = 1) + (ACM \geq 3)]$:

ACI = Audit committee independence. Dichotomous with 1 if all AC members are non-executive directors and 0 otherwise.

ACX = Audit committee's financial expertise. Dichotomous with 1 if the audit committee contains a member with financial expertise and 0 otherwise.

ACM = Number of audit committee meetings held during the financial year.

TAD	– Audit committee chair's total additional directorships. The number of additional directorships the audit committee chair holds, including executive and non-executive positions. TAD = $[(ACCXD$ = AC chair holds additional executive position in another company) + $(ACCnXD$ = AC chair holds additional non-executive position in another company)].
ACCS	– Audit committee chair's shareholdings. Dichotomous with 1 if the audit committee chair holds the company's shares and 0 otherwise.
PNEDB	– The proportion of non-executive directors to total number of directors on the board of the company.
BM	– Number of board meetings held in the financial year.
Duality	– Chief executive is also chair. A dummy variable equal to 1 if the chief executive concurrently holds the position of chairman, 0 otherwise.
NSH5	– Number of shareholders with= >5% Shareholdings. This is the number of shareholders holding 5% or more of the company's shares.

Size	– The natural log of total assets.
Lev	– Leverage of the company measured by the ratio of long-term debt to total assets.
lnSub	– Natural logarithm of number of subsidiaries.
Big4	– Big 4 as auditor. A dummy variable equal to 1 if the company employs a big 4-auditing firm as their auditor, 0 otherwise.
Loss	– Whether the company made a loss in the 2 previous financial years. A dummy variable equal to 1 if the company made a loss in the 2 previous financial years, 0 otherwise.
Acq	– Whether the company made an acquisition in the 2 previous financial years. A dummy variable equal to 1 if the company made an acquisition, 0 otherwise.
ε_{m1}	– Standardised residuals$_{m1}$: The computed residuals for model 1.

The dependent variable of interest (*lnNAS*) is the logarithm of NAS fees. Data regarding audit and NAS fees were obtained manually from the notes to the accounts in each of the companies' annual reports. For the AF related hypotheses, we replace the *lnNAS* dependent variable in the above equation with the log of audit fees (*lnAF*). Since, most factors influencing *lnAF* also influence *lnNAS* fees and that the relationships between AF, NAS fees and the other explanatory variables suggested in the literature are complex, we therefore incorporated the standardised residuals (ε_{m1}) of *lnNAS* from Model 1 into Model 2 to control for the incremental effect of NAS fees on level of AF.

Our test variable ACE is coded 1 if the following conditions are met: the audit committee is composed of non-executive directors, at least three audit committee meetings are held per year; and the audit committee has at least one member with financial expertise. The Smith Report (2003) defined expertise as follows:

At least one member of the audit committee should have significant, recent and relevant financial experience, for example as an auditor or a finance director of a listed company. It is highly desirable for this member to have a professional qualification from one of the professional accountancy bodies (para 3.16, p.9).

For the purpose of our models we regarded the audit committee has having financial expertise if one of its member had experience as an auditor, finance director or had a professional accounting qualification.

To summarise, the dependent variables used in the test is the level of NAS fees (*lnNAS*) and level of AF (*lnAF*). The main independent variable of interest is ACE (audit committee effectiveness) which consists of AC independence (*ACI*), financial expertise (*ACX*), and number of meetings (*ACM*). The control variables include: AC chairman's total additional directorships (*TAD*) and whether they hold shares in the

company (*ACCS*). Board characteristics related control variables included the proportion of NEDs on the board (*PNEDB*), number of board meetings (*BM*), and duality (*Duality*). We also control for ownership, the number of shareholders holding 5% or more of the company's shares (*NSH5*). Finally, company related control variables include the size of the company (*lnTA*), its leverage (*Lev*), the number of subsidiaries (*lnSub*), whether the company uses a big-four auditor (*Big4*) and whether in the last 2 years the company made a loss (*Loss*), or an acquisition (*Acq*).

3. EMPRICAL RESULTS AND ANALYSIS

(i) Descriptive Statistics

The sample used in the paper is drawn from non-financial companies in the FTSE-350 which represents a good mix of the largest UK companies and relatively smaller companies and covers the period 2001 to 2004. We use a random sample of 400 company-year observations to test our hypotheses relating the influence of audit committee effectiveness (ACE) on audit and NAS fees. Table 1 provides the descriptive statistics for the dependent and continuous independent variables used in our models.

TAKE IN TABLE 1

The analysis of residuals, plots of the studentised residuals against predicted values as well as the *Q-Q* plot indicate no problems of homoscedasticity and linearity. Residuals of standard tests on skewness and kurtosis indicated a problem with the normality assumption and therefore the dependent variables *lnSub* is transformed into normal scores. Table 2 presents the correlation matrix for the dependent and the continuous independent variables. It does not indicate any multicollinearity problem, as the correlations are relatively low.

TAKE IN TABLE 2

(ii) Regression Results

Model 1 tests which independent variables viz. the composite measure of ACE, AC chair's total additional directorships (*TAD*) and shareholding in the company (*ACCS*), the proportion of NEDs on the board (*PNED*), number of board meetings (*BM*), role duality (*Duality*), number of shareholders holding 5% or more of the company's shares (*NSH5*), and control variables viz. size of the company (*lnTA*), its leverage (*Lev*), number of subsidiaries

(*lnSub*), type of audit firm (*Big4*), loss made within the last 2 years (*Loss*) and acquisition (*Acq*), are associated with NAS fees. We run the model three times, referred to as Model 1a, 1b, and 1c. The results are shown in Table 3. The *F*-value for each model is significant at the 1% level and the adjusted R^2 for each of the three models is between 21% and 23%.

TAKE IN TABLE 3

Results in Model 1a show that board meetings, role duality, company size, type of audit firm and the test variable ACE are all found significantly associated with level of NAS fees but no significant relationship for the other variables tested. The fact that board meetings, role duality, company size and type of audit firm are significant suggest that large companies chaired and managed by the same director, audited by big-four and with frequent board meetings tend to buy more NAS. As predicted the negative coefficient and significance level for the test variable indicate that the probability of higher purchase of NAS decreases with ACE.

In Model 1b, we substituted *TAD* and *ACE* with *ACCXD* and *ACCnXD* for the former and *ACM*, *ACX* and *ACI* for the latter. As can be seen in Table 3, the overall findings are similar to the earlier model except that *ACX* was found to be significant and negatively associated with *lnNAS*. The result suggests that financial expertise in the audit committee team is the main driver for reducing the demand on NAS. As for model 1c, all variables are similar to model 1a except for TAD and ACE. In this model, we substituted TAD with *ACCXD* and *ACCnXD* (as in model 1b) and replaced ACE with a new refined ACE i.e.

refined.ACE = ACE less *ACCS*[347]. The results are again similar to model 1a but leverage is now found to be significant. We further found the newly defined variable (*refined.ACE*) to be significant and negatively associated with NAS. This is an interesting finding as it supports the position of the Smith Report (2003) which considered independence of the audit committee i.e. members drawn from outside the company rather than not holding shares as important for audit committee effectiveness.

Hence, our results in all three models show that the existence of effective audit committees, as measured by ACE, exerts a significant negative influence on the level of NAS fees, thus supporting our hypothesis 1 i.e. there is a negative relationship between ACE and the level of NAS fees.

Table 4 shows the results of Model 2 which focuses on the association between audit fees, the composite ACE and the control variables. As in Model 1, we also run this model three times and refer to them as Model 2a, 2b and 2c.

TAKE IN TABLE 4

In Model 2a, results indicate role duality, large shareholdings and gearing to be significantly associated with AF but with negative coefficients. Audit committee chair's shareholdings, number of board meetings, size, type of audit firm, residuals and the composite test variable ACE were also found to be significant but with positive coefficients.

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[347] Smith Report confines independence of audit committee to only those drawn from outside the company and did not address the issue of their shareholdings. As such, we exclude from the sample non-executive directors who hold shares in companies where they act as AC chairmen and we refer to this variable as *refined.ACE* in Model 1c.

This suggests that the propensity to increase audit fees is associated with companies having highly diffused shareholders, low gearing and with role duality. However, large companies audited by large audit firm tend to pay higher audit fees due to the size effect. In addition, companies with highly effective audit committee and those chaired by directors with shareholding (*ACCS*) also tend to demand higher audit service and consequently, higher audit fees. The significant residual variable which is used as one of the control variables in the model suggests that the purchase of NAS is often associated with the increase likelihood of buying audit.

In Model 2b, we substituted *TAD* and *ACE* with *ACCXD* and *ACCnXD* for the former and *ACM*, *ACX* and *ACI* for the latter. As can be seen in Table 4, the overall findings are similar to the earlier model except that role duality and *ACX* are not significant. We found ACM and ACI to be significant and positively associated with higher AF, suggesting that audit committees with such characteristics demand wider audit scope, thus increasing the AFs. As for Model 2c, we found the results to be similar to Model 2b with the exception of gearing. We also found *ACCXD* to be significantly associated with AF, but in the negative direction. This suggests that AC chairs who are executive directors in another company tend to reduce AF, suggesting that such chairs perceive AF as unnecessary burden and hence tend to demand lower level of AF. We further found the newly defined variable (*refined.ACE*) to be insignificant with AF, suggesting that AC chairs who have no shareholdings do not affect the level of AF.

Hence, our results in all the three models show that the existence of effective audit committees, as measured by ACE, exerts a significant positive influence on the level of AF,

thus supporting our hypothesis 2 i.e. there is a positive relationship between ACE and the level of AF.

4. SUMMARY AND DISCUSSION

Our results show that the existence of effective audit committees, as measured by *ACE* in our models, exerts a significant negative influence on the level of NAS fees implying that such audit committees are likely to be concerned about protecting (perceived) auditor independence and thus purchase lower levels of NAS from the incumbent auditors. Our results also show that number of board meetings, duality, company size and big-four auditor have a positive significant association with levels of NAS fees.

To test the effect of governance quality, in particular of AC effectiveness, we run the regression with AF as our dependent variable. The results show that our AF models are statistically significant (at the 1% level) with an adjusted R^2 between 66% and 68% and *ACE* (audit committee effectiveness) has a positive significant association with audit fees (*lnAF*). This suggests that high quality audit committees are likely to subject the financial reporting and audit process to greater scrutiny and demand higher level of audit which is in turn reflected in higher AF. Our findings are consistent with the US study of Abbott & Parker (2000) who noted that active audit committees are more diligent and therefore require higher audit quality in order to protect themselves from financial and reputational loss. It is noteworthy that in contrast to the US study of Carcello et al. (2002) who concluded that audit committee variables provide no incremental explanatory power when board variables are included in the audit fee model, we provide evidence that *ACE* has a significant positive effect on AF after controlling for board characteristics. It is possible that the Carcello et al (2002) findings are insignificant with respect to audit committees because their data relates to

1992 when audit committees may not have had relatively significant oversight responsibility for financial reporting and audit. Consistent with Carcello et al. (2002) however the variable for board meetings in our model has a significant positive association with audit fees. We also find that *ACCS* (audit committee chair holding shares), *lnTA* (company size), lnSubs (number of subsidiaries), and auditor type (*Big4*) all have a significant positive association with AF. Consistent with Firth's (1997) findings, *NSH5* (number of shareholders owning 5% or more shares) has a significantly negative association with AF which may suggest that large shareholders may use different methods to monitor managerial actions as opposed to heavily relying on the audit and so defused shareholding companies relied more on external audit function. The negative relationship of leverage seems to contradict the findings in Parkash & Venable (1993) and Firth (1997) where audit fees were seen to increase with higher leverage. This is interesting and provides an area for further investigation as many studies on audit fees have found leverage to be positively associated with audit fees (Hay et al. 2006b).

We undertook a number of additional tests relating to our hypotheses concerning the influence of *ACE* on audit and NAS fees. We replaced *ACE* in the NAS fee model (*lnNAS*) with the individual components of *ACE*, i.e. with *ACI*, *ACX* and *ACM*. The adjusted R^2 is unaffected and the model is still significant at 1%. However, we find that only audit committee financial expertise (*ACX*) is significant suggesting that an audit committee's financial expert contributes positively to greater monitoring. Audit committee independence (*ACI*) is negative, but not significant. Contrary to our expectations, audit committee meetings (*ACM*) has a positive, but not significant, association with NAS fees. When testing the NAS fee model using the individual components of *ACE* the control variables which were found to be significant and positive in the composite *ACE* model still remain positive and significant. Similarly, we also tested our AF model, replacing *ACE* with its individual components. The

results are unchanged, except that only audit committee independence (*ACI*) and audit committee meetings (*ACM*) components have a positive significant association with AF. Results from the individual analyses of *ACE* components do not change our overall conclusions regarding the influence of *ACE* on audit and NAS fees.

Our initial models of audit and NAS fees did not take into consideration the possible joint determination of auditor remuneration. To test for this we included the standardised residuals (ε_{m1}) of *lnNAS* (Model 1) as one of the independent variables for *lnAF* (Model 2). We also included *lnAF* as dependent variable in our model of NAS fees (results not reported in table). We found that AF have a positive significant association with level of NAS fees. Our results with respect to the significance of *ACE* are largely unchanged − *ACE* is still significant and negative and the adjusted R^2 marginally increases from 21% to 23%. When *lnNAS* is included as an additional independent variable in our model of audit fees (results not reported in table), we find that *lnNAS* has a significant positive association with AF. *ACE* however, as expected, still remains significant.

To summarise, this paper aimed to examine the influence of corporate governance quality on auditor remuneration. It provided evidence of audit committee effectiveness (*ACE*) having a positive significant effect on AF after controlling for board of director characteristics. Thus in contrast to the prior findings of Carcello et al (2002) for the US and Goodwin-Stewart and Kent (2006) for Australia, this paper has shown that audit committee quality does make a difference, even after controlling for board characteristics. Additionally the paper also provided evidence of the audit committee effectiveness (*ACE*) having a significant negative association with levels of NAS fees. Overall the results in the paper

provide evidence that effective audit committees, as measured by ACE, protect audit quality

by exerting a positive influence on the scope of the audit and restraining the purchase of NAS.

Although in contrast to Carcello et al (2002) this paper has demonstrated the significance of

ACE, further research is needed to better understand the factors which contribute to audit

committee effectiveness in different regulatory and institutional contexts. Our findings are

also relevant to regulators in other countries who are considering adopting measures to

enhance corporate governance, particularly the effectiveness of audit committees.

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Table 1: Descriptive Statistics

Variables	Min.	Max.	Mean	Std. Dev.	Std. Skew	Std. Kurtosis
Panel A : continuos variables						
ACS	2	6	3.30	.828	.44	.03
ACM	2	8	2.96	.90	1.52	5.2
TAD	0	5	1.62	1.33	.72	-.25
BM	4	19	8.7	2.61	.23	.155
PNEDB	.22	.83	.53	.122	-.26	-.136
lnSubs	.00	4.47	2.32	.88	-.55	.127
lnAF	9.80	13.91	11.94	.81	-.51	.277
lnNAS	.00	14.88	11.31	2.22	-3.34	14.871
NSH5	1	13	5.85	2.24	.59	.185
lnTA	15.75	20.56	18.56	.93	-.24	.211
Leverage	.00	.73	.16	.173	1.42	1.600
Panel B: dichotomous variables						
ACX	0	1	.72	.45	-.96	-1.08
ACI	0	1	.97	.17	-5.58	29.39
ACE	0	1	.51	.50	-.03	-2.01
Duality	0	1	.08	.27	3.21	8.4
B4	0	1	.92	.28	-3.00	7.07
Loss	0	1	.34	.48	.66	-1.58
Acq	0	1	.46	.50	.15	-1.99
ACCS	0	1	.81	.4	-1.55	.41

Table 2: Correlations matrix

	ACE	ACS	ACM	lnAF	lnNAS	TAD	BM	PNEDB	lnSubs	NSH5	lnTA
ACE	1										
ACS	-.010	1									
ACM	.527**	.029	1								
lnAF	.176**	.146*	.160*	1							
lnNAS	.088	.223**	.118	.514**	1						
TAD	-.189**	-.049	.008	-.034	.042	1					
BM	.057	-.151*	.073	.068	.080	-.087	1				
PNEDB	.020	.527**	-.008	.077	.202**	.071	-.113	1			
lnSubs	-.103	.001	-.070	.568**	.186**	-.018	-.216**	-.117	1		
NSH5	.100	-.115	.024	-.092	-.095	-.069	.053	-.236**	.116	1	
lnTA	.188**	.189**	.147*	.696**	.452**	-.028	.034	.157*	.379**	-.028	1
Leverage	.233**	.039	.174**	.222**	.203**	-.103	.130*	.073	.029	-.005	.425**

Notes
** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Table 3:

OLS regression of NAS fees on ACE and control variables

Model 1: dependent variable: *lnNAS*

	Model 1a	*Model 1b*	*Model 1c*
R^2	0.258	0.270	0.274
Adj. R^2	0.215	0.217	0.228
Std. Error	1.972	1.970	1.956
F value	5.925 (p=0.00)	5.047 (p=0.00)	5.927 (p=0.00)
(Constant)	0.386	1.903	3.001
ACCS	0.158	0.164	-0.786
BM	0.108**	0.108*	0.104*
PNEDB	1.196	1.326	0.907
Duality	1.395**	1.219*	1.444**
NSH5	-0.091	-0.103*	-0.068
lnTA	0.356**	0.356*	0.235
Leverage	1.401	1.302	1.548*
lnSubs	0.007	-0.030	0.032
B4	2.948**	3.161**	3.303**
Acq	0.130	0.178	0.214
Loss	0.249	0.165	0.149
TAD	0.144		
ACCXD		-0.116	-0.019
ACCnXD		0.140	0.150
ACE	-0.535*		
ACM		0.113	
ACX		-0.632*	
ACI		-1.667	
Refined.ACE			-1.826**

Notes:

**indicates significant relationship at 1% (p<0.01)

* indicates significant relationship at 5% (p<0.05)

Table 4:

OLS regression of audit fees on ACE and control variables

Model 2: dependent variable: *lnAF*

	Model2a	*Model2b*	*Model2c*
R^2	0.687	0.703	0.678
Adj. R^2	0.669	0.681	0.657
Std. Error	0.468	0.46	0.477
F value	37.394 (p=0.00)	32.256 (p=0.00)	33.04 (p=0.00)
(Constant)	2.065**	1.622*	2.116**
ACCS	0.171*	0.148*	0.088
BM	0.052**	0.050**	0.049**
PNEDB	-0.042	0.100	-0.131
Duality	-0.247*	-0.051	-0.186
NSH5	-0.055**	-0.053**	-0.048**
lnTA	0.451**	0.422**	0.463**
Leverage	-0.481*	-0.388*	-0.321
lnSubs	0.396**	0.412**	0.366**
B4	0.330**	0.165	0.405**
Acq	0.031	0.034	0.036
Loss	-0.072	-0.068	-0.068
ε_{m1}	0.077*	0.078*	0.07*
TAD	0.013		
ACCXD		-0.031	-0.118*
ACCnXD		0.023	0.004
ACE	0.237**		
ACM		0.089**	
ACX		0.103	
ACI		0.840**	
Refined.ACE			-0.154

Notes:
 **indicates significant relationship at 1% (p<0.01)
 * indicates significant relationship at 5% (p<0.05)

MEASUREMENT OF AUDIT QUALITY THROUGH REAL-ACTIVITY EARNINGS MANAGEMENT

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1. Introduction

Net income consists of cash flows from operating activities (hereafter, CFO) and accruals. Because accruals match the timing of the accounting recognition with the timing of the economic benefits, with accrual-based earnings we can measure firm performance better (Dechow and Dichev, 2002). However, accruals are mainly based on assumptions and estimates that, if wrong, must be corrected for the future earnings (Dechow and Dichev, 2002). In particular, discretionary accruals can be used for the means of manager's earnings management. Therefore, to raise reliability of financial reporting, auditors are needed to detect discretionary accruals and recommend managers to correct their financial reports according to the materiality. From these viewpoints, prior researches used discretionary accruals as proxies for the audit quality. Meanwhile, there is a view of CFO used in earnings management in addition to accruals. As mentioned above, CFO as well as accruals is included in net income. Manager can use various means for earnings management. CFO is also one of the means.

Traditionally, there were a lot of studies about discretionary accrual earnings management (hereafter, DAM). However, after Bugstahler and Dichev (1997) who maintain that CFO can be the means of earnings management as well, studies on earnings management by the means of affecting CFO have proceeded actively. Especially, Roychowdhury (2006) defined the earnings management through affecting CFO as real-

activity earnings management (hereafter, RAM), measured by combining three elements, i.e. costs of goods sold (hereafter COGS), production costs, and discretionary expenses.

The recent researches focus on the relationship between DAM and RAM, and report that due to several factors which make it difficult to use DAM for the earnings management (for example, regulations by Sarbanes-Oxley Act, etc.), managers use RAM more than DAM (Cohen, 2008). Most of prior researches about RAM hold that managers use RAM so frequently that auditors have difficulties to detect earnings management as policies, such as SOX, have increased auditor's assurance responsibility.

If auditors conduct audits of high quality according to the auditing standards, RAM as well as DAM will decrease. In this way, auditors would improve audit quality by supplying reliable information, solving uncertainty by reducing earnings management, in any case of DAM or RAM. This implies that RAM just like DAM can be a proxy for audit quality. Therefore, this study investigates the relation between the audit quality and the abnormality of RAM, and analyzes whether RAM can be a suitable proxy for audit quality.

We organize the paper as follows: Section 2 reviews existing literature on earnings management and audit quality. Section 3 develops arguments for our hypothesis, and discusses our methodology. In Section 4, we present descriptive statistics and the results of the empirical test. Section 5 deals with the conclusion and discusses the contribution and limitation of the results in this paper.

2. Hypothetical Backgrounds

Audit quality is defined to be the market-assessed joint probability that a given auditor will both discover frauds and errors in the client's financial statements, and report the ones as they are (DeAngelo, 1981). But, it is impossible to measure audit quality as the above definition because the elements of audit quality are determined by auditors whose view tends to be subjective rather than objective, and audit quality is not instantly perceivable. In addition, because of various circumstantial variables such as auditor, contract, and audit fee which influence audit quality, it is almost impossible to measure this as the definition. As a result, prior research used several proxies to measure audit quality.

DeAngelo (1981) used accounting firm's size as a proxy for audit quality. As its size gets bigger, inputted costs (fixed costs) increase the audit-related experience and knowledge of auditors, and they also increase an economic quasi-rent. Meanwhile, as the weight of depending on a certain company applied to external audit for an auditor, whose economic quasi-rent is big, gets smaller, it increases the probability that the auditor detects frauds and errors and reports them honestly. Therefore accounting firm's size can be a good proxy for audit quality. And auditor's size is also relatively easy to measure when using various tools like auditor's sales amounts, total assets size, the number of its clients and total audit fees, etc. And the measurement costs are so inexpensive that the size variable has excellent several conditions as a proxy for audit quality.

Chung and Kallapur (2003) used the absolute value (size) of DAM for measurement through Adjusted Jones Model (1995) as proxy for audit quality. It is an unavoidable matter, due to the inherent limit of audit, that earnings management may be included partially in the financial statements although they were audited by external auditors.

However, because an auditor may decrease managers' earnings management through auditing efficiently and effectively, magnitude of earnings management that is included in the assured financial statements can be a basis to be used as proxy for audit quality.

Khurana and Raman (2004) studied whether high audit quality of Big 4 is due to a litigation risk or it is needed for its auditor's reputation matters. They used an implied cost of equity capital to measure the reliability of financial information as a proxy for audit quality. It is thought that the reliability of a company's financial statements decreases as an implied cost of equity capital cost increases because information asymmetry between information users is reflected in this cost of capital.

Traditionally, most of studies on earnings management are involved in discretionary accruals, but studies on real-activity earnings management that affects cash flows have existed partially. Bartov (1993) proved that managers conduct the act of income smoothing because they have discretionary powers to control the disposal timing of fixed assets and investment assets.

Mande et al. (2000) proved that managers use short-term decision making of discretionary controlling the expenditure for research and development expenses according to economic conditions. Gunny (2005) investigated four types of earnings management i.e. research and development expenses, selling and administrative expenses, gains on disposal of long-term assets and investment assets, and diminishment of COGS through RAM of current period exert a negative influence on future operating activities. Roychowdhury (2006) developed a model of measuring RAM which aims to increasing earnings through price cutting, over-production of inventories and reduction of discretionary expenditures.

Zang (2006) confirmed that DAM and RAM can be used as substitutes for each other. And he confirmed that there is the sequence between these two, i.e. using RAM firstly, then DAM secondly. And a company's manager who has litigation risks switches using DAM to depending on RAM, from this result, it can be asserted that there exists the trade-off relationship between RAM and DAM. This hints that RAM is a type of earnings management that is hardly exposed than DAM.

Mizik et al. (2008) insisted that the market does not properly evaluate a company that carries out earnings management at the time of seasoned equity offerings. It is because the earnings management through RAM aiming higher income report is carried out more than through DAM. According to Edelstein et al. (2008), American investment companies in real estate have to pay out 90% of net income for the current year by the federal law, and he showed that these companies increased expense and reduced net income using RAM to reduce amounts of their obligatory dividend.

Coulton et al. (2008) confirmed that a manager use RAM in the fourth quarter mainly to meet earnings objectives. And they added the type of earnings management can be altered according to the purpose of financial reporting. Cohen and Zarowin (2008) showed that RAM as well as DAM is used at the time of seasoned equity offerings and these have significant negative (-) correlation meaning these have a relation of contradiction. Cohen et al. (2008) proved that types of earnings management are changed to RAM from DAM after implementation of SOX, and they insisted as the reason that compensations to managers are mainly a type of share compensation such as stock option before the implementation of SOX.

3. Hypothesis & Methodology

3.1 Hypothesis development

Net income is an index of a company's management results for current years, and consists of cash flows from operating activities and accruals. Accruals are applied for the accrual basis which is a basic principle in accounting areas. And they matches the accounting recognition with the timing of events which are the causes of cash inflows and outflows rather than the timing of actual cash inflows and outflows; accruals are regarded as an indispensable factor to deliver useful information to information users. However, accruals are frequently based on assumptions and estimations; this feature is criticized for a means of earnings management by adjusting values listed in financial statements. That is, discretionary accruals can be used by manager's earnings management means. Therefore, to raise reliability of financial reporting, auditors have responsibilities of detecting discretionary accruals which make it possible to distort financial reporting, and they are required correcting these ones according to the level of materiality. From these viewpoints, many prior researches used discretionary accruals as a proxy for audit quality.

However, CFO as well as accruals is included in net income. CFO is also used in earnings management, isn't it? It may be possible. Earnings management is implemented according to the discretionary powers given to managers; means of earnings management for which managers use accruals or CFO come under other problems. That is, manager can use various means to earnings management. CFO can be one of the means. For example, it is an adjustment of accounting numbers related to accruals that manager recognizes what should be treated as development costs (asset) as routine development expenses (expense); it shall be earnings management influencing on the current year's cash flows that managers increase routine development expenses to decrease net income.

Both these two methods of earnings management affect net income, but there is a difference between the former (the adjustment of time recognition), which does not affect cash flows, and the latter (the adjustment of an amount of expenses), which does affect cash flows.[1]

Traditionally, there were a lot of studies about earnings management using discretionary accruals (hereafter, DAM). While these studies suppose that CFO is difficult to be used by the means of earnings management, Bugstahler and Dichev (1997) argued that CFO should also analyzed empirically because CFO can be the means of earnings management. Accordingly, recent studies about earnings management that affects CFO are proceeding actively. Especially, Roychowdhury (2006) and his followers analyze earnings management affecting CFO known as real-activity earnings management (hereafter RAM), and measure the value of RAM by combining three elements of sales amounts, production costs, and discretionary expenses.

Many recent researches focus on the relation between DAM and RAM, and report that due to several institutional factors (seasoned equity offerings, hereafter, SEO and Sarbanes-Oxley Act, hereafter SOX, etc.), it is empirically shown that managers are using RAM more than DAM (Cohen, 2008). This result means that managers use RAM a lot as a means of earnings management, for it is hard to be detected by the auditor as policies, such as SOX, have increased auditor's assurance responsibility.

If an auditor conducts audit properly according to GAAP (generally accepted accounting standards) and GAAS (generally accepted auditing standards), RAM as well

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[1] In the case of earnings management using discretionary accruals, a company may also have a change of cash flows when considering the corporate income tax because discretionary accruals might affect income tax expenses which eventually change cash outflows. But, in this paper this effect will be disregarded.

as DAM will decrease. In this way auditors solve uncertainty problems by reducing discretionary earnings management by a manager (even if it is earnings management through DAM or through RAM), and supplying reliable information; this aims to improve audit quality. This implies that RAM as well as DAM can be a proxy for audit quality.

Therefore, this paper analyzes whether RAM can be used as a proxy for audit quality by measuring the size of discretionary (abnormal) RAM, and how RAM is related to other proxies for audit quality.

Hypothesis

Ceteris paribus, as the level of audit quality increases, the value of RAM decreases.

3.2 Methodology

3.2.1 Measure of Real activity-based Earnings Management

One of most favored proxies of real activity-based income adjustments is the model used by Roychowdhury (2006), which is intended to capture the abnormality level of cash flows from operating activities (CFO), production costs and discretionary expenses. And Zang (2006) and Gunny (2006) increased the validity of this method by verifying this proxy of Roychowdhury (2006) empirically.

The details of real activity-based income adjustments from those three variables in the above can be stated as follows:

1) CFO : A company can accelerate point of sales by price discounts or relief of credit   conditions

2) Production costs: A company can lower the cost of sales by increasing production volumes.

3) Discretionary expenses: A company can reduce cash outflows by decreasing discretionary expenses including advertising expenses, research & development expenses and selling and administrative expenses.

Roychowdhury used the method of the actual amounts minus the normal amounts which are considered as not exercising real activity-based income adjustments, to measure abnormal amounts of *CFO,* production costs and discretionary expenses. Meanwhile, the normal amounts of *CFO,* production costs and discretionary expenses are computed from the method developed by Dechow, Kothari and Watts (1998) as it is. In the viewpoint of Dechow, Kothari and Watts, the normal *CFO* is tacitly considered to have a linear relationship with the sales amounts and the change of sales amounts. And the details of equations are as follows:

$$\mathbf{CFO_{it}/A_{i,t-1} = a_0[1/A_{i,t-1}] + b_1[Sales_{it}/A_{i,t-1}] + b_2[\Delta Sales_{it}/A_{i,t-1}] + \varepsilon_{it}\ (1)}$$

A_{it-1}: total assets in year t-1

$Sales_{it}$: Sales in year t

$\Delta Sales_{it}$: $Sales_{it}$ - $Sales_{it-1}$

The cost of production is defined as the sum of the cost of goods sold *(COGS)* and the change of inventories. We can derive this below equation from equation (1), as it is

acceptable that the relationship between the *COGS* and sales of certain year is almost linear.

$$CFO_{it}/A_{i,t-1} = a_0[1/A_{i,t-1}] + b_1[Sales_{it}/A_{i,t-1}] + \varepsilon_{it} \ (2)$$

The change of inventories can be derived as follows:

$$\Delta INV_{it}/A_{i,t-1} = a_0[1/A_{i,t-1}] + b1[\Delta Sales_{it}/A_{i,t-1}] + b_2[\Delta Sales_{i,t-1}/A_{i,t-1}] + \varepsilon_{it} \ (3)$$

When using equation (2) and equation (3), the normal costs of production can be derived as follows:

$$Prod_{it}/A_{i,t-1} = a_0[1/A_{i,t-1}] + b_1[Sales_{it}/A_{i,t-1}] + b_2[\Delta Sales_{it}/A_{i,t-1}] + b_3[\Delta Sales_{i,t-1}/A_{i,t-1}] + \varepsilon_{it} \ (4)$$

The normal discretionary expenses are the sum of advertising expenses, research & development expenses (R&D) and selling and administrative expenses (SG&A). In this paper, we consider the normal discretionary expenses in the current year have a linear relationship with sales in the prior year as we adopt the method used by Cohen et al. (2007). If we apply sales in the current year in the model, it will be difficult to capture the decrease in the residual for a case that the management exaggerates sales amount which is not actually occurred; we may have very little residuals in that case, as a result, sales in the prior year is used in the equation. The details of the equation are as follows:

1896

$DisExp_{it}/A_{i,t-1} = a_0[1/A_{i,t-1}] + b_1[Sales_{i,t-1}/A_{i,t-1}] + \varepsilon_{it}$ (5)

From this equation (1)~ (5), we can calculate the abnormal *CFO,* the abnormal production costs and the abnormal discretionary expenses. And, in using these three factors to output the proxy of the real earnings management, we calculate the standardized variable by connecting all of these three factors to be denoted as *RAM* suggested by Cohen and Zarowin(2008) through equation (6).

RAM_Proxy=Abnormal CFO×(-1)+Abnormal Prod+Abnormal DisExp×(-1) (6)

The reason that abnormal CFO and abnormal DisExp are given the negative sign(-) in equation (6) is to homologize sign of earnings management through real activity. Concretely, RAM and abnormal CFO, abnormal Production costs, and abnormal discretionary expenses have following relativity.

First, Because acceleration of the timing of sales through increased price discounts or more lenient credit terms increases credit sales than cash sales, account receivables increases. Therefore, acceleration decreases firm's CFO. Increasing of production costs too decreases CFO. On the other hand, decreasing of discretionary expenses can increase CFO itself, but decreasing of sales promotional, advertisement, and R&D expenses in current period can decrease sales and CFO in next period.

Considering above, It is expected that there is a negative(-) relation between CFO and real-activity earnings management.

Second, reporting of lower cost of goods sold through increased production increases production costs. Therefore, lower cost of goods sold through increased production has positive(+) relation with real-activity earnings management.

Third, because it is meaning to increase earnings through real activity to decrease discretionary expenses including advertising, R&D, and SG&A expenses, discretionary expenses have negative(-) relation with real-activity earnings management.

RAM_ Proxy's value itself means direction of earnings management. Exactly, if RAM_Proxy has positive(+) value, it means that manage earnings upward through real-activity. In contrary, value has negative(-) value, it means that manage earnings downward through real-activity.

But, we used absolute value of RAM_ Proxy to measure earnings management. It is because upward and downward management of earnings have same meaning in earnings management to auditor.

3.2.2 Measurement of Audit Quality

Audit quality is defined as the joint probability of detecting and reporting material financial statement errors (DeAngelo, 1981), which will partially depend on the auditor's independence. On the other hand, if audit reports are limited as an end result produced by auditors, auditors' opinion will be recognized as the audit quality depending on contexts.

However, it is difficult to measure audit quality using the above-mentioned definition; auditors' subjectivity prevents factors of audit quality from fair and objectively estimated ones. In addition, various circumstantial variables, such as the condition of contract between the auditor and the auditee, and the audit fee, etc., influence audit quality, it is almost impossible to measure this as the definition.

So, prior researches used several proxies to measure audit quality as follows: First, auditor's reputation can be a suitable proxy for audit quality. Auditor's reputation is essential for keeping current audit clients and attracting major new clients. Besides, auditor's reputation brings augmentation of audit fee, and can offer the auditee incentives to prevent or detect oneself frauds or errors. In summary, auditor's reputation has a positive relation with audit quality. Second, it is auditor's size. DeAngelo (1981) used the size of audit firm as proxy for audit quality. As an auditor's size grows bigger, economic quasi-rents of the auditor also increase; these rents are good things to be explained for the auditor's suitability and independence. As an auditor's size grows bigger, inputted costs (fixed costs) increase auditor's various experience and knowledge, and also increase economic quasi-rents. In other words, for an auditor whose economic quasi-rents are big, the possibility of fairly stated opinion becomes higher by the promoted independence; consequently, an auditor's size will be a good proxy for audit quality.

Auditor's size has various ways to be measured, like auditor's sales amounts and assets size, the number of auditees and total audit fees, etc., and the measurement cost is so inexpensive that it has excellent several conditions to be used as proxy for audit quality.

Third, it is possible to measure audit quality through the magnitude of earnings management. It is an unavoidable matter, due to the inherent limit of audit, that earnings management may be included partially in the financial statements although they were assured by external auditors. Nevertheless, the magnitude of earnings management that is included in the assured financial statements can be a basis to use as proxy for audit quality, for it will be possible that an auditor reduces earnings management by auditing efficiently and effectively. Generally, discretionary accruals are used to capture earnings

management. And Jones Model (1991) is used mostly to measure discretionary accruals, in which normal (non-discretionary) accruals are measured by time-series or cross-sectional analysis and the value of DAM is calculated through total accruals minus non-discretionary accruals.

Fourth, litigation risk can be a proxy for audit quality. Auditors are liable to be sued by many kinds of law. For it is necessary to protect information users who make their own decisions on the basis of the assured financial reporting by external auditors. As a result, auditors are needed to avoid litigation risk by performing higher-quality auditing. Litigation risk may be measured through the number of litigation cases.

Finally, there is a proxy such as the reliability of financial information. This is like logic of earnings management because the reliability of financial statements is assured by external auditors. The reliability of financial information can be measured by CAR of the ERC Model at the time of public announcement, analyst-expected information, or cost of owner's capital.

The purpose of this paper is to provide RAM as proxy for audit quality, and to prove the validity of RAM through comparing this with existing proxies for audit quality. So, in this paper we are willing to compare RAM with as many other proxies as possible. Existing proxies used in this paper are auditor's reputation (Big 4 or non-Big 4), auditor's size (auditor's sales amounts, assets, audit fees and audit hours, etc.), implied cost of capital, which is a measure of the reliability of the financial statements, and DAM, which is often used in the prior studies as a proxy of earnings management measured by Jones Model (1991).

When we compare DAM to RAM, although DAM just like RAM is used for the purpose of earnings management and DAM have an innate relationship with RAM, there may be some differences between them because of certain conditional variables of companies subject to external audit.[1] For this reason, we may have a high value for RAM against a low value for DAM, and vice versa. In conclusion, both are proxies of earnings management, but they have different characteristics and meanings; although they can be independently used as proxies of audit quality, it is meaningless to inspect the relationship between the two or to compare values of the two for a company. Therefore, it is appropriate to study in which cases DAM has different directions or values from RAM.

One weakness of recognizing RAM as a proxy of audit quality is that RAM will be an inadequate variable to influence the audit opinion of a company, if the manager claims that the decision-making of the management was inevitable to deal with change in the corporate environment in response to the demand of an auditor to disengage earnings management from real activities including the acceleration of sales by price discounts or relaxation of credit conditions and increase of production volumes or the ending of inventories, which of the manager are within the discretion of the manager.

And another weakness of RAM, as compared to DAM, is that, although we use total non-discretionary accruals in the financial statements inclusively to calculate the value of DAM (Top-down Approach), for RAM, we should separate out the abnormalities in every account and then sum them up to compute the value of RAM (Bottom-up

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[1]The innate reason is that there is a negative (-) relation between CFO and accruals. On the other hand, according to the circumstances of clients, the relationship between DAM and RAM can have a positive (+) or a negative(-) value. For example, in the case of owner -managers, there is the possibility of making greater use of DAM which does not influence cash flow rather than utilizing RAM which has a negative influence on cash flow. We will explain again the relationship between DAM and RAM by undertaking additional analysis in Chapter 5.

Approach); there may therefore be the possibility of omitting some parts of RAM related to non-operating income or expenses. However, most auditors focus on three factors which make up the Roychowdhury Model, and RAM can be a means of capturing frauds and errors that might not be recognized using DAM. Consequently we consider that the utility of f RAM is adequate.

3.3 Regression Model

$$|RAM_{it}| = a_0 + b_1 PROXY\_AQ_{it} + b_2 \Sigma YR_{kt} + b_3 \Sigma IND_{jt} + b_4 LEV_{it}$$

$$+ b_5 \ln\_SIZE_{it} + b_6 GROW_{it} + e_{it} \ (7)$$

$|RAM_{it}|$: absolute value of real-activity earnings management in year t

$PROXY\_AQ_{it}$: proxy of audit quality in year t

YR_{it}: dummy variable set to 1 if the year is k year, 0 otherwise

IND_{it}: dummy variable set to 1 if the industry is j industry, 0 otherwise

LEV_{it}: debt to equity ratio in year t

$\ln\_SIZE_{it}$: natural logarithm of total assets

$GROW_{it}$: growth rate of total assets in year t

Predicted signs of variables are as follows:

Variables	PROXY_AQ							LEV	In_SIZE	Grow
	Fame	Size of Auditors				Credibility of	Size of			
	Auditor (1 if audited by the BIG4,	Sales Amounts	Total Assets	Auditing Hours	Auditing Fees	Financial statements (Cost of owner's	Discretionary Accruals (DAM)			

	otherwise 0)					equity)				
Predicted Sign	-	-	-	-	-	+	?	+	-	+

As auditor's reputation becomes higher, the value of RAM will decrease. For the auditor will try to decrease the degree of earnings management to elevate his or her own reputation.

In addition, we expect the magnitude of RAM will tend to decrease as the size of the auditor group increases, since the scale of an audit company or partnership is considered to elevate audit quality. As the cost of the owner's equity of an audited corporation increases, an increase in RAM is also to be expected because the information asymmetry between management and other information users gets larger, which results in a reduction in the credibility of the financial statements and makes it difficult to detect RAM, one of the causes making for asymmetries of information. In the above table, our expectation for the predicted sign of the size of discretionary accruals is a question mark. The reason is as follows: DAM and RAM are tools for \ the measurement of earnings management for accruals and for the measurement of cash flows from operating activities, respectively, which results in their innately negative (-) relationship. In many prior research papers, it was found that these two variables are negatively correlated (Zang, 2006, Cohen, 2008). But, when there is the possibility that the manager uses both DAM and RAM for earnings management, is not unreasonable to expect these two variables to have a positive (+) relationship.

Meanwhile, some variables like a term dummy, an industry dummy, the leverage of liabilities (LEV), the asset size of a firm (SIZE) and the growth rate of total assets

(GROW), all of which are considered to influence the size of RAM, are also included in this model as control variables. DeFond and Jiambalvo (1994) claim that if the debt leveraging is increasing, managers will tend to increase their reported income. According to Watts and Zimmerman (1986), the larger the size of a firm, the greater the likelihood of its being a political target; an increase in political costs provides managers with an incentive to underreport accounting profits. When deducing the size of the firm *(SIZE),* sales are usually used, but in this study, the logarithm of total assets is applied because t strong correlations exist between real activities manipulation *(RAM)* and sales amounts. Soonseok Yoon (2001) explained that if the growth rate of the firm *(GROW)* is high, managers will be inclined to report higher returns for tax purposes. We use the annual growth rates of total assets as proxies for growth patterns.

4. Results

4.1 Sample selection

The sample consists of all firms with available financial data from TS-2000 (Korea Listed Companies Association). The sample includes non-financial firms that are traded on Korea Stock Exchange and KOSDAQ. We exclude firms in the financial industry because accounting rules are different for these firms. And the sample includes annual data for firms covering years from 2003 to 2007. The final sample consists of 5,222 firm-year observations.

4.2 Empirical Results

4.2.1 Descriptive statistics

Table 1 represents the descriptive statistics of RAM and its components for the each year covered by this study. Contrary to our expectations, CFO has slightly positive coefficients. Coefficients of production costs (PROD) and discretionary expenses (DE) are positive and negative, respectively, which is consistent with our expectations.

Every component moves in direction consistent with RAM from 2003 to 2007, but the values of the coefficients do not keep up increasing or decreasing in the time series [as time goes by]; this indicates that the Accounting Reform Act, which was introduced in 2003, has hardly any influence on the size or direction of earnings management.

Panel A: Annual Descriptive Statistics of RAM

| | Components of RAM | | | | | | Total RAM | |
| | CFO | | Prod | | DE | | | |
Year	Average	Standard Deviation	Average	Standard Deviation	Average	Standard Deviation	Average	Standard Deviation
2003	0.035	0.197	0.842	0.641	-0.033	0.181	1.121	0.765
2004	0.791	4.046	8.961	31.46	-0.007	0.090	8.905	31.313
2005	0.081	0.378	1.234	1.313	-0.030	0.171	1.344	1.420
2006	0.030	0.213	0.866	0.657	-0.028	0.165	1.087	0.738
2007	0.010	0.199	0.824	0.647	-0.026	0.161	1.096	0.717

Panel B: RAM and Its Components

Description	Average	Standard Deviation	Min Value	Max Value
CFO	0.04572	0.14824	-1.03023	59.34589
PROD	1.79811	0.63668	-0.09344	8.13855
DE	-0.02698	0.02767	-1.00000	0.00300
RAM	1.00843	0.66321	0.01153	8.51596
DAM	-0.00063	0.21721	-4.75608	5.98581

<Table 1> RAM and Its Components, and Descriptive Statistics of DAM

Table 2 presents Pearson correlation coefficients between RAM and its components and DAM.

	CFO	PROD	DE	RAM	DAM
CFO	1	0.1261 (0.000)	-0.0016 (0.906)	0.1168 (0.000)	-0.1503 (0.000)
PROD		1	0.0039 (0.779)	0.9817 (0.000)	0.1244 (0.000)
DE			1	0.0071 (0.607)	0.0011 (0.934)
RAM				1	*0.1137 (0.000)*
DAM					1

<Table 2> Pearson Correlation Coefficients between RAM and Its Components and DAM

Zang (2006), Cohen and Zarowin (2008) argue that RAM and DAM are substitutes for each other from their finding of s strongly negative correlations between RAM and DAM. However, as can be seen from Table 2, RAM is positively correlated with DAM in the case of South Korea. This indicates that in Korea managers conduct earnings management making use of both DAM and RAM.

4.2.2 Analysis of RAM and a Proxy of Audit Quality

Table 3 displays regression coefficients for each item when comparing RAM with BIG4.

Variable	Intercept	PROXY_AQ (1 if audited by Big4, and 0 otherwise)	LEV	ln_SIZE	GROW	$\sum$Year	F Value	Adj. R^2	Number of Samples
Predicted		-	+	-	+				

Sign									
Actual	1.366	0.050	0.792	-0.06	0.01				
	(10.66)	(2.62)	(18.08)	(-8.37)	(42.06)				
Result	***	***	***	***	***	-	144.85	0.165	5087

<Table 3> Relationship between RAM and the Reputation of Auditors (Whether they are big4 or not)

We have results which have signs consistent with our expectations for the control variables of LEV, In_SIZE and GROW, and adjusted R-square is 0.161.In an analysis undertaken to examine the relationship between the reputation of auditors and audit quality, RAM and the status of auditors (BIG4 or not) are slightly positive correlated (0.005), which is to in contrast expectation and would lead to the rejection of the hypothesis that Big4 and RAM are negatively correlated. Possible reasons for this result are as follows: First, there may be limitations to the model we introduce. Or it may be possible that because of limitations of Roychowdhury's Model, we could not capture all of real-activity earnings management, which caused our results to contradict our expectations. Second, according to these results, because it is generally difficult to detect RAM as compared to DAM, Big4 cannot detect real-activity earnings management well. In fact, many cases of accounting fraud have been found in firms audited by Big4. This may be taken to imply that auditors, whether Big4 or not, pass over real-activity earnings management.

4.3 Additional Analyses

4.3.1 Additional Analysis of RAM's Components

(1) Comparison with Components of RAM

We analyze the relations between audit quality and three components that make up RAM, i.e. abnormal CFO, production costs and discretionary expenses. The results in Table 4are as set out below:

Variable	Intercept	PROXY_AQ (1 if audited by Big4, and 0 otherwise)	LEV	ln_SIZE	GROW	F Value	Adj. R^2
CFO	2.167 (37.73) ***	0.001 (0.17)	0.152 (8.82) ***	-0.090 (-29.60) ***	0.002 (20.03) ***	76.19	0.2924
PROD	0.969 (5.84) ***	0.095 (4.51) ***	0.614 (12.33) ***	-0.020 (-2.28) **	0.004 (14.03) ***	38.34	0.1702
DE	2.159 (44.96) ***	0.025 (4.12) ***	0.002 (0.18)	-0.097 (-38.27) ***	0.002 (26.25) ***	142.07	0.4397

<Table 4> Relationship between Components of RAM and Big4

The components of RAM and Big4 are positively correlated; for the Big4, we get higher values of RAM.

(2) Analysis of Including

Abnormal Cash Flows from Investing Activities within RAM As stated above, the value of RAM consists of abnormal CFO, production costs and selling and administrative expenses, which are components of the income statements. This means that although there may be some possibility of real-activity earnings management through items within the category of selling and administrative expenses in the income statements, these types of earnings management tend to be excluded. Therefore, to supplement to these facts in this study, we include real-activity earnings management, which is exercised through

within the category of selling and administrative expenses in RAM, and the equation of the model is as follows:

$$CFI_{it}/A_{i,t-1} = a_0[1/A_{i,t-1}] + b_1[Sales_{i,t-1}/A_{i,t-1}] + \varepsilon_{it} \quad (8)$$

In this above equation, it is implied that managers carry out earnings management by using acquisitions of assets like equipment and gains (or losses) on disposal of assets. We calculate expected CFI on the assumption that cash flows from investing activities have a linear relation with sales, and we deduct the expected CFI from the real CFI, which results in abnormal CFI (Ab_CFI) being included in RAM. The results are as follows:

Variable	Intercept	PROXY_AQ (1 if audited by Big4, and 0 otherwise)	LEV	ln_SIZE	GROW	$\sum$Year	F Value	Adj. R^2	Number of Samples
Predicted Sign			+	-	+				
Actual Result	1.833 (13.73) ***	-0.051 (2.62) ***	0.79 (18.18) ***	-0.04 (-5.89) ***	0.01 (26.60) ***	-	296.94	0.285	5087

<Table 5> Analysis of the Relationship between the Reputation of Auditors (Whether auditors are BIG4 or not) and the RAM Containing Ab_CFI

Although we include abnormal CFI, the robustness of our results is effective, i.e. the coefficient of Big4 is positively correlated with RAM. And, adjusted R-square is found to be 0.285 which is a higher value compared to the basic model.

5. Conclusion

Audit quality may be seen as combination of the possibilities that auditors may detect errors or frauds and one that they may report their findings in full. For the estimation of this the reputation or size of the auditors and the degree of earnings management are used as proxies for audit quality. In prior research studies, discretionary accruals have been used to measure earnings management, but this method is only a fraction of measurements of earnings management, which is irrelevant to cash flows of a firm. Therefore, in this study, we examine whether real-activity earnings management as an alternative to discretionary accruals can be used as a proxy of audit quality. We find that the reputation of auditors is positively correlated with the size of RAM. Meanwhile, DAM and RAM when exercised by managers tend in Korea toward a relationship that is complementary rather than one of substitution. This implies that that Korean managers tend to make use of DAM and RAM at the same in order time to adjust their earnings.

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6.3 Social and Environmental Accounting
ETHICAL VALUES
AND CORPORATE SOCIAL RESPONSIBILITY
IN INDONESIA: AN EXPLORATORY STUDY

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Abstract

Ethical values are important for accounting profession. The implementation of the values in the profession depends not only of the profession itself but also depends on the business communities. This study explores the existence of ethical values in Indonesian firms, based on the extent to which the firms disclose the values in their web sites.

Analysis of the contents of ethical values and orientations among Indonesian firms indicate that they have similar orientation toward customers, employees and stockholders. The differences are those between oil and gas and non-oil and gas industry where the latter have more attentions on the issues of environment and work safety. This indicates that different stakeholders require different approaches of the firms with respect to the ethical values and CSR. Compared to U.S. and global firms, Indonesian firms have similar ethical values and contents, especially with respect to general values, orientation to customers, employees and stockholders. The differences are that Indonesian firms provide more attentions to community and economic development, employment, and small business development. Further, Indonesian firms also focus on the issues of ethnic groups and less on gender issues, while competition has the least attention since market mechanism and Law on Fair Competition is just recently introduced in 1999.

Keywords: Business ethics, corporate social responsibility and Indonesian firms.

INTRODUCTION

This study intends to explore the extent to which Indonesian firms and firms doing business in Indonesia have formally codes of ethical values and conducts, and programs to enforce the ethical values and to fulfill the corporate social responsibility. The ethical values and corporate responsibility have been discussed in public media and have become one of the foci of attentions by social interests group and governmental institutions recently. The 1997 crisis and efforts to improve the economic recovery have been strengthening the public attention to the issue. Ethical values have been believed as important fundamentals for effectively applying the principles of good corporate governance and to improve the efficiency of the economy (Friedman 1970; Mulligan 1986).

Ethical values and social responsibility have become an integral part of human life. Both have a significant rule in order to appreciate human rights and become parameters to evaluate every activity. Human behavior is not only evaluated by the result, but also by the way to achieve it and their responsibility to others. Ethical values and social responsibility rely on this side. People, companies, and government need to implement ethical values and social responsibility in their every activity. Good corporate governance has known as a universal parameter to evaluate performance of companies. Ethical values and social responsibility are inherent in principles of good corporate governance that concentrate in company policies to pay attention to the rights of stakeholders.

The important of ethics has also been contended by Stewart (1996) that proposes the opinion of Thomas Hobbes that states that although the intention to

pursue self interest is obstructed by laws such as law for anti monopoly and environmental protection laws, still, everyone would be at war with everyone else. The impact of this is the emergence of uncertainty. People will always stay alert and they disbelieve to each other. However, Hobbes thinks that everyone is going to search a way out from the uncertainty condition considering that people live in a society. Hobbes proposes that such passion can incline men to peace and will encourage them to arrive at such ethical principal.

The government of Indonesia today has a concern to the implementation of good business practice. They start to encourage the companies in Indonesia to implement the principles of good corporate governance. Indonesian Capital Market Supervisory Agency as the regulator of capital market also encourages companies and institutions which business related to or listed in the capital market to apply the principles of good corporate governance.

There are a lot of studies analyzing the contents of corporate ethical values and codes in industrialized countries (such as those of Chatov, 1980; Centre for Business Ethic, 1986; White and Montgomery, 1980; Benson, 1989; and Sweeney and Siers, 1990). Similar studies in ethical values in developing countries like in Indonesia are very rare. This study may close the gap of literature in business ethics. This study is also important for policy making decision by regulators, mapping the development of ethical practice, and contributing to the business and economic research.

The rest of the paper is organized as follows. Section two discusses the concepts of ethics and the importance of ethics in business, and previous studies

in business ethics and corporate social responsibility, especially in identifying corporate values and codes of ethics. The research problem this study would like to answer is also provided in this section. Section three explains the research method, and section four discusses the results and analysis of the findings. The last section provides conclusion and suggestions for future research.

LITERATURE REVIEW

Literature on business ethics is fragmented where studies in the area have different and independent foci of interests. This section provides a review on some of the theories and studies to provide a basic figure about what has been done regarding research in business ethics, what determines ethical behavior, the importance of ethics and corporate social responsibility in business, and identification of values and codes of business ethics.

Concepts and Development of Business Ethics

Ethics is about right and wrong regarding a human behavior and decision. Ethical problems or problems whether a certain behavior is right or wrong are decided based on certain values. Values refer to beliefs upon which humans act by preference, and ethical values are prescriptive beliefs about what is "right" and "wrong" (Fritzsche 2005). Values are frequently associated with moral principles and standards, meaning that they are foundations and measures to judge whether a certain behavior or a decision is ethical or unethical. Values may be based on rules such as those prescribed by religious beliefs, rights principles (e.g.

human rights), and justice principles and are referred to as the deontological beliefs (or nonconsequentialist principles). Values may also be based on perceived outcomes such as utilitarianism that evaluate whether a decision results in maximum benefits for the largest number of people, and are referred to as teleological beliefs (or consequentialist principles).

Business ethical (decision) is the process of evaluation of behavior and decisions with respect to the moral values, standards and principles, either before or after the behavior or the decision is being made or executed. Even there are not always exact rules, either consequentialist and nonconsequentialist principles are used in business situations. Consequentialist principles evaluate a decision based on the results the decision has, while nonconsequentialist principles evaluate the decision based on certain rules. For example, Cavanagh (1990) cites six rights that he believes are basic to business activities: life and safety, truthfulness, privacy, freedom of conscience, free speech and private property. More specifically, Arrow (1975), pointing out the importance of truth in business, stated that, "virtually, every commercial transaction has within itself an element of trust." Another example, in financial service business, the firms insure the customers about their privacy, information about the products and consents. On the other hand, analysis of business decisions based on cost efficiency, the effects of the decisions on customers, share holders and community reflects the use of consequentialist principles.

Business ethics developed and implemented from various origins and settings such as cultures, religions, personal values, and profession or business

organization. Individual ethical behavior in business is determined by societal culture, organizational culture and his or her personal traits. The case of Lincoln Electric in the U.S. illustrates how the Christian values inspire the founder in enforcing ethical values in business (Anthony and Govindarajan 1998). The founder, James F. Lincoln wrote:

> "The Christian ethic should control our acts. If it did control our acts, the savings in cost of distribution would be tremendous. Advertising would be a contact of the expert consultant with the customer, in order to give the customer the best product available when all of the customer's needs are considered. Competition then would be in improving the quality of products and increasing efficiency in producing and distributing them; not in deception… Pricing would reflect efficiency of production….."

Studies in organizational and societal cultures indicate the influence of the cultures on ethical behavior. Based on Hofstede's cultural typology, Blodgett et al. (2001) found the positive effect of cultural dimension of level of uncertainty avoidance; and the negative effect of cultural dimension of power distance and individualism/masculinity on the ethical sensitivity toward the stakeholders. The effect of organizational culture on ethical behavior is provided by Victor and Cullen's (1987, 1988) studies. The study identified five ethical organizational culture/climate types: *instrumental* (maximization of self-interest on the individual or organizational level), *caring* (maximization of joint interests on all levels), *independence* (use of personal ethical principles), *rules* (use of organizational ethical principles), and *law and code* (use of ethical principles from outside the organization).

The importance of organizational culture in ethical decision is also described in Trevino's (1986, 1992) widely cited model of ethical decision-making in organizations. The model proposes that ethical decision-making is the result of an interaction between individual and situational components, with the individual's way of thinking about ethical dilemmas, being moderated by three individually-based moderators (ego strength, field dependence and locus of control) and three situational moderators (immediate job context, organizational culture and characteristics of the work itself).

A number of other empirical studies have examined the relationship between individual or personal values and ethical decision-making. Rosenberg (1987) examined the effect of managers' value systems on ethical decision-making behavior using a complex international management game to simulate a competitive business environment. He found that the personal value systems of managers were subordinated to the goals of the company and any conflict between the two was resolved on the basis of utility rather than on ethical or moral grounds.

The role of individual values on ethical decision is also examined by Fritzsche (1991, 1995) and Barnett and Karson (1987). Fritzsche (1991) developed a model of ethical decision-making incorporating personal values of the decision-maker. The personal values are dominant individual-level input into the decision-making process, which are mediated by organizational culture. Subsequent empirical work (Fritzsche, 1995) demonstrated the association of differing personal value systems with ethical and unethical responses to ethical dilemmas.

Barnett and Karson (1987) presented a series of vignettes to managers and found that, in most cases, the decision could be predicted by the personal values of the respondents, the exceptions to this finding involving relatively minor, everyday issues. They also found that the propensity toward ethical action appears to be situationally specific and is likely to decrease in situations where one's actions would not be discovered by others. Finally, those whose personal value systems were relatively more associated with economical than ethical or political issues were found to become more ethical as the level of responsibility increased.

The studies enrich others that have been developed earlier such as cognitive Moral Development (CMD) of Kohlberg (e.g. 1969) and Elm and Weber (1994). CMD describes an individual's general orientation towards solving moral problems. Based on a longitudinal study of American boys, Kohlberg identified that individuals' ethical behavior appeared to develop sequentially through six stages. The theory is extended to other cultural settings and subjects including those of managers with mixed results (Gilligan 1982 and Marnburg 2001).

The studies reviewed above provide valuable theoretical bases and development of theories and research in business ethics. However, they are only of limited value when it comes to efforts to apply ethical theory to real-life situations (e.g. Bowie, 2000; Cornelius and Gagnon, 1999). In this connection, Maclagan (1995) has suggested that business ethics research still need to recognize the complexity and disorder of real-life management practice and adopt methods of investigation, theoretical and conceptual frameworks that allow

for effective implementation of ethical values, in addition to analyzing the abstract concepts of philosophical ethics theory.

Business Ethics and Corporate Social Responsibility

Corporate social responsibility (CSR) is a concept related with but different from ethics. CSR is a concept meaning that the corporations are responsible for their activities that affect people, communities, and environments. To some extents CSR is related with business ethics when it concerns with issues such as human rights and the benefits and costs of a decision to people. The decision of CSR is dynamic, that it develops according the dynamic of development and complexity of business and economy (Pinskton and Archie 1996).

Friedman (1970) stated that, "there is one and only one social responsibility of business–to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game, …… without deception or fraud (ethical values)." There is no controversy on the importance of compliance of business to ethical values and regulation, such that Friedman said. However, when come to the issues of social responsibility in more detailed measures such as degree of unemployment, inflation, environmental conservation, clean air and social welfare, there are two different views from an extreme profit oriented, private property and free market view without paying attention to social issues, to the other extreme view that look a firm as a member of society and has social duties as other members of the society.

The first view, profit oriented, private property and free market view argue that the issues of social responsibility belong to the government (politicians) and politician who have duties to collect taxes, to redistribute wealth, and to take care of public goods and services. The government is elected by public and should be responsible for the social issues to the public. The CEOs, management of the firms, are elected by shareholders and should be responsible to the shareholders for making profit. It is unfair for the CEOs to be responsible for social issues, because it is the duties of government.

The other view (corporate social responsibility) looks social actions by firms as integral element of the firms' strategic and operational business management and do not conflict with the duties of the firms to the shareholders (Mulligan, 1986). The role of management in social issues is part sound management practices. The firms have activities such as purchase, production, and sales to achieve their business goals. The activities involve directly and indirectly community members like labors, investors, consumers, government and others. These communities are known as stakeholders for the firms meaning those have interests to the firms. The importance of corporate social responsibility is to maintain the firm relationship with these stakeholders and to achieve the firm long term growth.

The corporate social responsibility view sustained, as studies indicate the positive relationship between levels of firms' implementation of social responsibility duties with their performance. A press release in January 12, 1999 reported that Domini 400 Social Index (DSI) gained 7.5% in December, greater

than that of S&P that gained 5.82%. On annual basis, DSI resulted in total returns of 26.08%, outperformed S&P that had 24.07% in 1998. DSI is a market-capitalization-weighted common stock index that includes 400 corporations that pass multiple, broad-based social screens. DSI serves as a proxy for the universe of stocks from which social investors might choose and as a benchmark for comparison with unscreened universes.

The importance of ethics and social responsibility is more prevalent for certain industries such as those operating in sensitive environments and community development. Firms in chemical industry, oil and gas and energy should pay attention to issues relating to safe environment and natural conservation, otherwise they may be sued for environmental problems. Similarly, a firm operating in a remote and undeveloped area where the community is still undeveloped and very traditional such as in Papua (Indonesia) should have a community development program to hinder social unrest. The experience of Freeport Indonesia indicates the importance of this issue. The company failure to address social and economic problems of the community where the company operates (copper and gold mining) results in social unrest that disturbs sustainability of the company.

Corporate social responsibility is also important for promoting long-term profitability of business. Firms' social initiatives such as donations for educational programs and other public facilities and benefit became investments for them. The case of Barlow et al. v. A.P. Smith Manufacturing (1951) in Post et al. (2002) illustrates the impact of company social program to their long-run profitability.

Furthermore, firms grow in parallel with their responsiveness to social issues, adopt principles of corporate citizenship, and apply quality standards that include firms' awareness to social and ethical issues (Ackerman and Raymond 1976, Davenport 1999, and Global Reporting Initiatives 2006). More specifically, Clarkson and Deck (1992), based on data on corporate ethics and CSR indicated that corporate focus on ethical values, CSR and stakeholders' interest are important for their economic and social performances. Without the balanced social performance, the data showed that the corporations will not achieve above-average profits.

Corporate Ethical Values, Codes and Social Responsibility

Implementation of ethics in business has been enforced in all functions such as accounting, finance, marketing, production, and human resources, at national and international levels. The issues being addressed are also widely spread into economic development, technology transfer, regulatory action, employment, human rights, environmental protection, consumer protection, and political action. Various international organizations and authorities put their efforts to develop ethical codes to be complied by multinational business. These organizations include International Chamber of Commerce (ICC), Organization for Economic Cooperation and Development (OECD), International Labor Organization (ILO) and United Nations on Transnational Corporation (UN/CTC).

For certain functions of business such as accounting and finance, ethical values are enforced formally through the accounting profession codes and

standards. These codes include values such as integrity, objectivity, independency, professional due cares. These codes of ethics are recognized either at national as well as international level of the profession association.

Numerous studies have examined the extent to which corporations implement ethical values and corporate social responsibility (CSR). One of the most recent studies is that of Snider et al. (2003). They examine the extent firms communicate their commitment to CSR to their stakeholders. They analyze qualitatively the legal, ethical and moral statements of the sample firms in Forbes Magazine's top 50 U.S. and top 50 multinational non-U.S. firms. Based on stakeholder theory, they reveal that U.S. and multinational non-U.S. firms concentrate their attention on a similar set of stakeholders and have approximately the same CSR issues. Both set of firms share CSR messages in similar manners and act similarly in their use of general value statements, orientation to satisfy customers and to meet their stockholders expectation, and concerns to (local, national and global) society.

The study found that the U.S. based firms give more explanation on diversity issues in employment and commitment to work-life balance to attract and retain employees. The firms provide a broad and flexible leave policy and focus more explicitly on work safety than non-U.S. firms. The study also found that competitors are the stakeholder group which gets the fewest number and variety of CSR messages. In this issue, fair competition is the most common message the firms deliver.

The current study extends the previous studies, especially that of Snider et al. (2003) by examining the firms doing business in Indonesia. The implementation of ethical values are identified based on the firms explanation of the values in the forms of general value statement, codes of conducts, code of practices, enforcement systems and firms' achievements in ethics and CSR.

RESEARCH METHOD

This research uses secondary publicly available data at the company websites. The sample consists of firms listed in the Jakarta and Surabaya Stock Exchange whose web sites are available at January 2006. The sample also uses firms operating in oil and gas business, registered at The Government Agency for Upstream Oil & Gas Business for oil and gas companies (BP Migas-GAOG). The reason for including firms in the oil and gas industry is that industry has high sensitivity to ethical and social issues, while at the same time it also provides significant contribution to the country economy.

There are several reasons for the use of websites of the firms as the sources of data. First it is convenient, and it has been used for some previous studies. Second, the web sites are widely used by the firms to communicate important information to stakeholders. Third, the web sites have been used by the business community to access information, and fourth, the websites can be updated and accessed more quickly and timely.

I Identify 426 listed firms in various industries in services including financial services and banking, manufacturing, mining and oil and gas, and 44 non-listed

firms operating in oil and gas business registered in The Government Agency for Upstream Oil & Gas Business (hereafter GAOG). Each firm is coded based upon the following information: (1) Name, legal establishment, status as local, multinational, private of state owned companies., (2) Industry the companies do business, including firms in financial services, (3) Ethical values stated in their vision and mission, and natures of the values, (4) Codes of conducts and codes of practices the companies apply, and (5) Enforcement system of the values and codes, and (6) Awards and achievements the firms have had.

The natures of the values are then categorized into the orientation of the values as follow: (1) general ethical value statement, (2) values oriented to environmental issues, (3) values relating to customers, (4) employees, (5) stockholders, and (6) communities either at local, national and global level. General ethical values are defined as universal ethical values such as those relating to human rights, personal freedom, honesty, trust and unfair discrimination. Other categories of values are relating to specific group interests such as employees, customers, stockholders, and environment.

Codes of ethics are statement of mission, purpose, or vision, usually in the forms of normative standards, used by the firms in controlling and evaluating their business activities. Codes of conducts more specifically state the rules that managers and employees must (or must not) do. Codes of conducts usually consist of a list of rules, stated either affirmatively or prohibitively (Clarkson and Deck 1992). Codes of practices are interpretation of corporate ethics in more

operational ways; it functions as guidelines for employees in making decision or performing certain activities.

The information is analyzed qualitatively and descriptively based on the similarities and differences among industries with regard to the ethical orientations, and the extent to which social issues are being addressed by the firms in the industries. Stakeholder theory is used for the identification of the social issues being addressed by the companies.

RESULTS AND DISCUSSION

Ethical Values, Codes of Conducts and Codes of Practices by Industries

The results indicate that for listed firms in Jakarta and Surabaya Stock Exchange, 165 firms (60% from firms observed) express the company ethical values in their vision and mission statements, 75 firms (27%) states the codes of conduct in doing their business, 75 firms (27%) states the codes of practices, 35 firms (13%) states their enforcement system for ethical values, and 77 firms (27%) report that the companies have achievement and awards relating to their compliances on ethical values and corporate social responsibility. This finding indicates that the firms had been realized the importance of the ethical values (as shown by the greater percentage of firms expressing their ethical values), but lack in implementation of the values and corporate social responsibility.

Oil and gas firms registered in GAOG have different pattern. The number of firms who state their ethical values in their vision and mission and codes of conducts is 17 out of 30 firms (56%), while the number of firms who state the

code of practices and enforcement is 25 (83%). This may be explained that firms in oil and gas industry tend to have code of conducts and practices because they are relatively more regulated, especially with regard to safety, environmental issues and community development. Thus the industry practices (with regard to ethical values and CSR) are more driven by rules and regulation instead of their corporate values. In summary, the data are presented in table 2 below.

Natures of Ethical Values, Orientation to Environment and Other Stakeholders

The current study also identifies the natures of the values and corporate social responsibility, whether they are general value statement, orientation toward environment, interest of stockholders, employees, competitors, society, local, country and global issues. The result is presented in table 3. The finding indicates that 84 firms (31%) states general value statement, 67 firms (24%) express their values oriented to environment, 165 firms (60%) provide value statement relating to the interests of costumers, 137 firms (50%) relating to employees, 98 firms (36%) relating to the stockholders, 24 firms (9%) relating to the competitors, 74 firms (27%) relating to the interests of local society, 65 firms (24%) relating to the society at national level, and 11 firms (4%) relating to the society at global level.

The data indicate that most of the firms pay attention to their customers, while the number of firms who express their value orientation to global issues and competition issues are the least. The reason for the fewer firms pay attention to competition issues is that fair competition, i.e. regulation for fair competition and

antimonopoly has just been recently applied. The lack of firms who pay attention to international issues is because of that the firms are probably more exposed to local issues relatively. Social, regulatory and economic reform in the country may absorb their attention more than the international issues.

Comparing the two groups of firms, it is interesting to note that there are more oil and gas firms expressing their orientation toward the environment, employees, and local community (76% - 84%), and less oil and gas firms expressing their orientation toward customers (53%), than the non-oil and gas firms do. The social exposure of the oil and gas firms explains this. The oil and gas industry is more sensitive to environmental and community development issues than that of other industries. Oil and gas firms also usually operate in remote areas with least infrastructures, so that they should build them. The remote areas also have less economic development so that the companies should consider this to reduce the social risk.

Analysis of Ethical Values, Codes of Conducts and Code of Practices and CSR Programs of Specific Firms

The sample firms express general ethical values relating to truth, honesty, integrity, professionalism, excellences, keeping promises and benefits to the society. For examples, PT Abdi Bangsa, a publishing company that publishes daily newspaper 'Republika', states that they intend to put universal values as

priority in their business. PT Antam, gold, nickel and mineral mining company states: "We want to shed the image of a closed-door state-owned company by providing as much information about the company as possible. Our goal is high transparency and disclosure to allow our shareholders to make well-informed decisions." This statement reflects the efforts of the company to build trusts. Asahimas, a glass manufacturer, depicts their values from numerous of values living in the company, which is described further based on the Company's corporate culture i.e. pioneering and cooperation spirit, honesty, integrity and creative thinking. Eventually, the Company formulates its Mission and Vision as: "To Build the World a Better Place for Living."

Astragraphia, a company in information technology industry, states about their work ethics they intend to pursue as follow:

- Customer Satisfaction. Customer satisfaction spirit is implemented thoroughly within the whole internal process at Astragraphia Document Solution.

- Professionalism, Joy and Fulfillment. Devouring each working process as the center of inspiration and put perfection in quality in all the service and products, first.

- Team Work. Reward individual performance to build a more solid and synergic team work.

- Business Innovation. Always becomes the pioneer in maximizing knowledge and technology through practical approach as the base of the development of our product and service.

- High Ethical Standard. Implement a high ethical standard within working environment.

- Social Responsibility. Develop knowledge as our backbone through intensive educational training.

Astra Agro Lestari, a firm in plantation industry committed to the development of the country and work ethic. The company states that "Any individual belonging to Astra Agro Lestari is expected to uphold the Planters Culture, a work ethic representing our true spirit. It consisted of Honesty and Responsibility, Discipline, Working Fanatic, Care, Control, Supervision and Esprit de Corps". In 2002, we then added and emphasized on Innovativeness.

The firms in banking industry emphasized their values on their commitment to fight against money laundering and illegal banking, consistent with the country campaign against corruption and unethical and illegal business practices. The industry is publicly exposed for their problems in high non-performing loan and degree of compliance to regulation, problems that become one important factor causing the crisis in 1998.

Commitment to education is expressed by several companies such as Sampoerna, PT Hero Supermarket, Bank Niaga, and Aqua Golden Mississippi. They have CSR programs in providing scholarship to students and cooperation with schools and universities. In oil and gas industry, firms are driven by the government regulation to allocate their budget for educational and community development.

Commitment to develop and partnership with small business is mentioned by Bank Danamon, Bukopin, BRI, PT Hero Supermarket (reporting that the firm has more 500 small business firms operating in their supermarket), and Unilever Indonesia. Commitment to develop small business, in addition to meeting their ethical duty, also relates directly to their business objectives. For the banks, commitment to the small business is related to their selection and their focus on the small business consumers, while for the trading firms, this may relate to their business strategy.

Firms in cement industry such as PT Semen Gresik and Indocement state that they support the country industrialization, economic development, improving employment and clean environment program. More specifically, Indocement states that, "Indocement is committed to the idea of a sustainable cement industry which centers around economic growth, ecological balance and social progress. A concrete manifestation of this commitment is the Clean Development Mechanism (CDM) project that Indocement has undertaken in cooperation with Prototype Carbon Fund (PCF), a pioneer in the market for project-based greenhouse gas emission reductions within the framework of the Kyoto Protocol. This represents the first undertaking of its kind in Indonesia, and one of the first in the cement industry throughout the world." As explained in their website, to support the CDM, the company applies Clean Energy Technology, uses alternative materials to reduce clinker that eventually reduces the consumption of energy and decarbonation, applies Energy Diversification and Conservation with

alternative fuels to reduce the consumption of fossil fuels, and substituting coal with biomass and other wastes.

A mining firm, International Nickel Indonesia (PT Inco) has similar tones of ethical values and CSR as that of Indocement, with the difference in that PT Inco also indicates a close relationship with educational institutions for their community educational development program, and their concerns with and programs in community (public) health.

With respect to the rights of consumers, employees and stockholders, the sample firms in general provide similar ethical statements. For the customers, they attempt to deliver quality and competitive products and services, timely delivery, accuracy of information, satisfaction and long-term relationship. For the employees the firms intend to provide safe working environment, teamwork, trust, and respect, health, safety and clean environment program, and respect the diversity. For the shareholders the firms promise for high returns and economic values, transparency and reliable information.

In term of diversity among the employees, Lontar Pulp and Paper a part of Asian Pulp and Paper state the following:

> "Many people representing different ethnic, racial and language groups have made the APP their employer. An environment that welcomes and encourages the benefits of diversity often increases profitability and productivity in business. Hence, the diversity in the company is a tremendous asset. Valuing all employees as unique individuals leads to a more productive and fulfilling work environment. Here at APP, we embrace and celebrate the unique qualities of our employees including race, gender, age, religion, disability, sexual orientation and national origin. We also recognize that our company is

enhanced by employees' various opinions and viewpoints. Diversity enriches our work environment and results in our being able to better meet the needs of our customers and our shareholders. We value the diverse contributions of all people, regardless of their position, sexual preference, family status, age, race, sex, disability, religion or national origin. All employment practices are based on ability and performance. We understand the value of diversity in our workforce and actively seek opportunities for incorporating diversity within our company".

It is interesting to note about the extent APP presents their ethical values and CSR because, while the company seems to intend to commit to ethical values and CSR, at the same time the company has serious financial problem especially with their debt holders. This indicates two important issues: first, that the effectiveness of ethical vision of a firm is complex, and second, debt-holders is a group of stakeholders the firms should also concern.

In summary, the contents of the ethical values and codes of the sample firms are as the following.

- General ethical values: truth, honesty, integrity, professionalism, justice accountability, transparency, excellences, and keep promises.

- Environments: concerns to clean environments, public health, minimize environmental damages, comply to certain standards (emission level, decarbonation, energy consumption and alternatives, and efficiency).

- Customers: satisfaction, quality, price, delivery, relationship, excellences, understand their expectation.

- Employees: safety, continued education and skill development, reward and motivation, respect and value diversity (among ethnic groups), and equality of opportunities for minorities.

- Stockholders: returns, economic value added, shareholder welfares, transparency and accountability.

- Competitors: partnership and legal compliances.

- Community: economic development, partnership and development of small business, employment, education and human resources, public health, fighting against poverty.

CONCLUSION, LIMITATION AND EXTENSION OF THE RESEARCH

I conclude the analysis of the ethical values and codes of the sample firms as follow:

- There are similarities among firms and industries in the contents of ethical values and orientations of the values for customers, employees and stockholders. However, there are also differences in focus between oil and gas and non-oil and gas industry relating to the environment and work safety, where the latter have more weights on the issues. This indicates that different stakeholders require different approaches of the firms with respect to the ethical values and CSR.

- Compared to studies using U.S. and global firms (Snider et al. 2003), Indonesian firms have similar ethical values and contents, especially with

respect to general values, orientation to customers, employees and stockholders.

- There are differences where Indonesian firms provide more attention to community and economic development, employment, and small business development. In term of diversity, Indonesian firms focus on the issues of ethnic groups and less on gender issues.

- Competition has the least attention since market mechanism and Law on Fair Competition is just recently introduced (1999).

The limitations of this study rests on two aspects: first, he use of websites as the data source may under- or over-value the ethical perspective of the firms. Second, codes of conducts and practices may not be well explained and well presented in their websites, even though the firms have and implement the codes. The limitations of the study can be resolved by extending the study. Specifically this study may be extended by using more systematic and statistical methods to identify the ethical variables and organizational, economic and cultural variables. Other approaches are using other sources and methods of data collections such as survey, news and direct observations.

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TABLE 1: Sample firms

Total firms identified:		
Listed firms in various industries	426	
Listed firms with no websites	-151	
Total listed firms with websites (observed)		275
Non-listed oil & gas firms registered in GAOG	44	
Oil & gas firms with no websites	-15	
Total non-listed oil & gas firms registered in GAOG (observed)		29
Total firms observed		304

TABLE 2: Firms stating their ethical values, codes of conducts, codes of practices, enforcement system, and achievement in their websites

Industry	Ethical Values	Codes of Conducts	Codes of Practices	Enforce	Achieve
Listed various industries	165	75	75	35	77
	60%	27%	27%	13%	27%
Oil & Gas	17	17	25	25	25
	56%	56%	83%	83%	83%

TABLE 3: Natures of the ethical value statements

Ethical Values	Various Industries	Oil & Gas
General value statement	85 (31%)	16 (53%)
Orientation toward:		
Environment	67 (24%)	19 (63%)
Customers	165 (60%)	12 (40%)
Employees	137 (50%)	18 (60%)
Stockholders	98 (36%)	17 (57%)
Competitors	24 (9%)	14 (47%)
Local community	74 (27%)	18 (60%)
National community	65 (24%)	10 (33%)
Global community	11 (4%)	11 (37%)

APPENDIX 1: *List of Industries Whose Firms Are Listed in Jakarta and Surabaya Stock Exchange*

No	Industry	Firms	Webs
1	Advertising, Printing & Media	12	11
2	Animal Husbandry & Feed	5	5
3	Automotive and Components	15	12
4	Banking	36	32
5	Bookstore	1	1
6	Cable	6	5
7	Cement	4	3
8	Ceramics, Glass, Porcelain	9	7
9	Chemicals	10	6
10	Computer, Services, Internet & IT Solution	11	10
11	Construction	6	5
12	Cosmetics and Household	8	6
13	Crude Petroleum & Natural Gas Production	1	1
14	Energy	5	5
15	Fertilizer	1	1
16	Financial Institution	33	20
17	Fishery	6	1
18	Food and Beverages	22	16
19	Footwear	6	1
20	Heavy Equipment	3	2
21	Insurance	11	8
22	Investment Company	3	2
23	Wholesale (Durable & Non Durable Goods)	15	10

24	Metal & Mineral Mining	5	4
25	Metal and Allied Products	12	5
26	Miscellaneous	1	1
27	Pharmaceuticals	10	9
28	Plantation	9	4
29	Plastics and Packaging	12	6
30	Property and Real Estate	38	18
31	Pulp & Paper	7	6
32	Restaurant, Hotel & Tourism	16	9
33	Retail Trade	14	7
34	Securities Company	4	3
35	Shipping	2	2
36	Telecommunication	6	5
37	Textile & Garment	22	11
38	Tobacco Manufactures	4	3
39	Tollroad, Airport, Harbour	2	1
40	Trades, Services & Investment - Others	16	3
41	Transportation	9	6
42	Water Utilities	1	0
43	Wood Industries	6	2
44	Others	1	0
	TOTAL	**425**	**275**

APPENDIX 2: *List of Firms in Oil and Gas Industry Registered in GAOG*

1   AMERADA HESS (INDONESIA-PANGKAH) LTD.

2   APEX (BENGARA II) LTD.

3   B.G INTERNATIONAL LIMITED

4   B.P INDONESIA

5   BADAN OPERASI BERSAMA (BOB) PT. BUMI SIAK PUSAKO - PERTAMINA HULU

6   CALTEX PACIFIC INDONESIA

7   CNOOC SOUTHEAST SUMATRA LTD.

8   CONOCOPHILLIPS

9   EKSINDO

10   ENERGY EQUITY EPIC

11   ENI INDONESIA LTD.

12   ENSCO HOLLAND B.V

13   EXXONMOBIL OIL INDONESIA, INC.

14   IMR - PETRONUSA BUMIBAKTI

15   INDO-PACIFIC RESOURCES (JAVA) LTD

16   INPEX CORPORATION

17   KALREZ PETROLEUM SERAM LTD.

18   KODECO ENERGY CO, LTD.

19   KONDUR PETROLEUM S.A.

20   KOREA NATIONAL OIL CORPORATION (KNOC)

21   KUFPEC (INDONESIA) LTD.

22   LAPINDO BRANTAS INC.

23   LIRIK PETROLEUM

24   LUNDIN B.V

25   MATRIX OIL (ASAHAN) PTY. LTD.

26 MEDCO E & P INDONESIA

27 PEARL OIL (TUNGKAL) LTD.

28 PERMINTRACER PETROLEUM LTD.

29 PETROCHINA INTERNATIONAL

30 PETRONAS CARIGALI BERHAD LTD.

31 PETROSELAT LTD.

32 PREMIER OIL NATUNA SEA, BV

33 SANTOS

34 SELE RAYA MERANGIN DUA

35 SHELL COMPANIES IN INDONESIA

36 SINOPEC INTERNATIONAL PETROLEUM

37 STAR ENERGY (KAKAP) LTD.

38 TALISMAN ASIA LTD.

39 TITAN RESOURCES (NATUNA) INDONESIA LTD

40 TOTAL E & P INDONESIE

41 UNOCAL INDONESIA

42 VICO INDONESIA

43 ZODAN N.V.

44 ZUDAVI N.V.

STAKEHOLDER ENGAGEMENT: THE RELATIONSHIP BETWEEN CORPORATE SOCIAL RESPONSIBILITY, CORPORATE STRATEGY AND FINANCIAL PERFORMANCE IN AUSTRALIAN FIRMS

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Abstract

There has been limited research in Australia that examines the relationship between corporate social responsibility (CSR), corporate strategy and financial performance. This study is based on some international studies that have used stakeholder theory to develop management models to test these relationships. Using Australian data, the results provide support for the proposition that managers engage with stakeholders in order improve financial performance, and that it is beneficial for companies to take into account their responsibility towards stakeholders in their strategy to better the fiscal position of the company. There was no support for the intrinsic management model. Corporate strategy was found not to mediate the relationship between corporate social responsibility and financial performance which suggests that companies which engage with stakeholders do so to maximise the firm's profitability, rather than for ethical reasons.

Introduction

Corporate social responsibility (CSR) is based on a concept which recognises that companies are responsible for their social and environmental effects and should consequently seek to manage and monitor those effects. Patricia Russo, CEO of Alcatel-Lucent has stated that "Corporate Social Responsibility is part of who we are and how we do business every day"[350]. The idea of 'who we are and how we do business is consistent with the concept that corporate social responsibility has a close relationship with the stakeholders of the company. Stakeholders

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[350] Reported in the press release on http://www.alcatel-lucent.com

are increasingly demanding that companies be accountable for their actions and companies are responding to those demands.

A firm's business strategy is a scheme for handling the firm's relationships with the environment in which it operates. All firms are part of a rich network of relationships. To be socially responsible, companies should engage with the stakeholders ensuring that relationship with the stakeholders is part of their business strategy.

According to Hutton (2000) and Curran (2006); over the course of nine years, Members of Parliament in the UK have changed their priorities when making judgements about a company. The trend shows that social responsibility is considered as a relatively more important attribute than financial performance (Curran, 2006). Recent research also suggests that there is a positive relationship between a company's CSR actions and consumers' attitudes toward that company and its products (for example Brown and Dacin, 1997; Creyer and Ross, 1997; Ellen, Mohr. and Webb, 2000 and Sen, 2001).

Furthermore, Berman, Wicks, Kotha and Jones (1999, p. 489) argued that a company's engagement with stakeholders plays an important role in corporate decision making and hence corporate strategy. Corporate social responsibility in some way influences a company to shape its strategy that is best for all stakeholders in order to maintain the performance and reputation of the company. Thus, corporate strategy is significant for the firm financial performance and complements its corporate social responsibility.

Two possible motivations for stakeholder engagement are considered. Firstly, firms engage with stakeholders in order to achieve firm objectives, including performance objectives – the instrumental approach – and secondly firms see stakeholder engagement as a moral commitment rather than a means to improve financial performance – the intrinsic approach (Donaldson and Preston, 1995, Berman et al, 1999).

This study uses the Dow Jones Sustainability World Index (DJSI World) as a proxy for corporate social responsibility and stakeholder engagement to investigate the relationship between

corporate strategy, stakeholder engagement and financial performance. A sample of Australian firms with a DJSI World ranking are used to test these relationships. Such a study has not been done using Australian data. The direct relationship between the variables and financial performance, as well as the effect of the interaction between CSR and strategy on financial performance test the proposition that the motivation for stakeholder engagement is to improve financial performance. If ethical considerations motivate stakeholder engagement, then corporate strategy will mediate the relationship between CSR and financial performance (Berman et al, 1999). This proposition is also tested.

The was a strong positive relationship between CSR and financial performance, consistent with some previous studies (for example Berman et al, 1999, Tsoutsoura, 2004), and the interaction between corporate strategy and CSR affects financial performance, and the relationship is more complex than the direct effects. There was no support for the intrinsic or ethical perspective of stakeholder engagement. Thus it seems that managers engage with stakeholders because of the effect this can have on financial performance. This is consistent with the perspective of Friedman (1970) who argued that social responsibility of firms is to increase profits.

The remainder of the paper is organised as follows; A review of the literature precedes a section on hypothesis development, followed by a discussion of the research method and data collection. Next, the results are discussed, and lastly the conclusions from the findings of this study.

Prior Research

Nowadays, there is greater demand for corporations to be socially responsible. "More and more business leaders recognize that their company's future is increasingly tangled with the needs and demands of society. What many executives don't understand is how best to manage that changing relationship" (Stanford Social Innovation Review, 2007, p. 2). Today, the world's entire top multinationals are engaging in corporate social

responsibility (CSR) in some form and there are few countries in which businesses have not taken up the challenge of CSR in some way (Hennigfeld, 2006). Thus, CSR is one of the key global challenges for today's business leaders.

A global reporting survey conducted in 2004 by the Association of Chartered Certified Accountants and Corporate Register found that the number of corporate social, environmental, and sustainability reports increased from fewer than 100 in 1993 to more than 1,500 in 2003[351] (ACCA Global, 2004). This significant increase in companies' disclosures is due to increasing demand for companies' social and environmental performance from customers, investors, and a wide range of other stakeholders. Failure to meet stakeholder demands can impact detrimentally on a firm.

CSR is most frequently defined as a concept whereby companies integrate social and environmental concerns in their business operations and in their interactions with stakeholders on a voluntary basis (European Commission, 2002). Companies which conform to CSR are not merely satisfying legal expectations, but also going beyond compliance and investing 'more' into human capital, the environment and the relationship with stakeholders. Freeman (1984, p.25) defines a stakeholder as "any group or individual who can affect or is affected by the achievement of the firm's objectives".

Hennigfield et al (2006) suggested that in order for a company to achieve complete incorporation, transparency and efficacy, and to make significant contributions to sustainability, activities need to be integrated strategically into the organizational structure of the company. More specifically, CSR involves a business identifying its stakeholder groups and incorporating their needs and values within the strategic and

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[351] Survey done by Association of Chartered Certified Accountants (ACCA) and Corporate Register

day to day decision making process of the company. This links CSR with stakeholder theory and the strategic management of an organisation.

Stakeholder Theory provides a framework for investigating the relationship between corporate social performance and corporate financial performance (Ruf, 2001). Stakeholder theory posits that firms possess both explicit and implicit contracts with various stakeholders, and are responsible for honouring all contracts (Freeman, 1984; Donaldson and Preston, 1995; Ruf, 2001). It is concerned typically with how the organization manages its stakeholders. Fulfilling the needs of various stakeholders may involve consideration by the company of economic, social and environmental criteria.

Friedman (1970) argued that 'the social responsibility of business is to increase its profits'. He protested against the notion of the emerging social responsibilities of corporations to act in the best interest of other stakeholders, not just shareholders or investors. He also argued that acting for the benefits of other stakeholders represents a betrayal to the special responsibility of the firms to their shareholders, and thus symbolizes a theft of the shareholders' money.

However, Freeman (1984) provides two reasons to support the importance of other stakeholders. Firstly, investors or shareholders are not the only group that has a legal interest in the corporation. Companies have lawful, compulsory contracts with employees, suppliers, or customers, and also to the society as a whole. Secondly, it was argued that if we consider the problems of negative externalities, we would find that it is not only investors that are affected, but also the employees, customers, suppliers, the environment, government and many more stakeholders. For example, pollution released by a factory that spoils the surrounding environment affects the health of nearby residents and of the natural environment.

Stakeholder engagement is therefore an essential capability for companies that wish to be socially responsible. Given that socially responsible companies aim to identify and

manage their social impacts they need to ensure that managers in all parts of the organisation have the ability to recognise and deal appropriately with all the stakeholders of that organisation.

Stakeholder engagement is an integral part of a company's effort to align its CSR strategy with its business strategy. It is perhaps an often overlooked function of CSR, yet one that is critical to the success of an organization's sustainability strategy.

Firms with proactive environmental strategies tend to engage and respond to a wider range of stakeholders as compared to firms with reactive strategies that tend to respond to pressure mainly for regulators and stakeholders on whom they are resource dependent. The capability of integrating knowledge from stakeholders such as suppliers and customers will help firms design products with the certainty of an acceptable environmental impact (Hart, 1995).

Thus there is a clear link between stakeholder engagement and CSR and the business strategies of the organisation. Ullman (1985) outlined a framework based on the stakeholder approach to a strategic management. Further, Bryson (1995, p.10) has stated that 'Strategic planning is a formal process that is the cornerstone of a strategic management system. A strategic planning process involves mission verification using stakeholder analysis, clarification of organizational commands, systematic assessment of an organization's internal and external environments, identification of strategic issues, strategy development, and development of an organization's vision statement". Through strategic management, organizations could improve their engagement with stakeholders, so as to achieve business success. "Doing well by doing good" is the famous slogan used by researchers to introduce the importance of corporate strategic management for firms that have a social responsibility to achieve some larger social goals, and can do so without a financial sacrifice (Karnani, 2007).

One component of strategic management is the corporate strategy. Corporate strategy is principally about the choice of direction for a firm as a whole and the management of its business or product portfolio. Corporate strategy deals with three key issues facing the

corporation as a whole. First, *Directional Strategy* that is the firm's overall orientation toward growth, stability, or retrenchment. Second, *Porfolio Strategy* is concerned with the industries or markets in which the firm competes through its products and business units and lastly, *Parenting Strategy* the manner in which management coordinates activities and transfers resources and cultivates capabilities among product lines and business units (Wheelen and Hunger, 2008, p. 164). Examination of these three key issues suggests stakeholder engagement is important in developing corporate strategy. Corporate strategy can provide the business with a spring for sustainable competitive advantage. The strategy must be acceptable to the wider environment and society in which the firm competes to ensure the sustainability. Preferably, leaders should address stakeholder concern in methods that brings strategic benefits for the firm. CSR is not about things that are unrelated to a firm's operations. Instead, CSR is about the economic, legal, ethical and discretionary issues that stakeholders view as affecting the firm's performances and actions (Werther and Chandler, 2006, p. 10). Therefore integrating CSR into corporate strategy is one of the important elements in maintaining corporate sustainability. Barton (1987) argued that top management must incorporate more than economic goals; they must recognize the multifaceted region of the firm and the resultant implicit multiple social and behavioural goals. Success is not assured solely by achievement of shareholder wealth maximization, but through the arrangement by management of major factors that have an impact on the firm (for example management values and aspirations, environmental threats and opportunities, and values imposed by society at large) in order to achieve the specific goals of the organization (Andrews, 1980; Barton, 1987). If strategic benefits result from engaging with stakeholders and incorporating this into corporate strategy, then it might be expected there would be a positive link between corporate strategy, stakeholder engagement and firm performance.

The perspective that firms engage in stakeholder engagement because of the positive impact it may have on firm performance is related to the 'organised centred' perspective of stakeholder theory that considers the diverse stakeholder groups in society, and how best the firm can

managed to meet the organisation's goals (see for example Gray, Owens and Adams (1996).

From a similar perspective – the instrumental perspective - Donaldson and Preston (1995) focus on the proposition that stakeholder management will lead to better financial performance. Both these perspectives see stakeholder management as important in furthering the interests of the organisation. This conforms to Friedman's (1970, 32) position that "the social responsibility of business is to increase its profits".

An alternative perspective of stakeholder theory is corporate accountability which can be tied to a 'normative' or ethical perspective. For example Gray, Owens and Adams (1996) have argued that society has a right to be informed about a corporation's operations that could impact on that society – that it is accountable to that society for its actions. Donaldson and Preston (1995) and Bermann et al (1999) have labelled this an 'intrinsic' approach to stakeholder commitment. Each group of stakeholders has worth, and the interests of one group of stakeholders (for example shareholders) should not predominate. In other words, a firm should not manage the needs of a group of stakeholders in order to further their economic performance, but because it is the intrinsic right of all stakeholders to be treated fairly.

These two perspectives of Stakeholder Theory form the basis for the development of the hypotheses.

Hypothesis development

Proponents of CSR claim that it is in the enlightened self-interest of business to undertake various forms of CSR. The forms of business benefit that might accrue would include enhanced reputation and greater employee loyalty and retention (Moir, 2001, p. 17). According to Waddock and Graves (1997), Berman et al (1999) and Tsoutsoura (2004), a further benefit of CSR is the positive association with corporate financial

performance. This implies a direct effect on financial performance of stakeholder engagement and is consistent with the proposition that firms engage with stakeholder groups to further the interests of the organisation. This leads to the first hypothesis:

H1: Corporate Social Responsibility (CSR) performance has a positive association with corporate financial performance.

Empirical evidence suggests that firm strategy is important for enhancing financial performance (Barton,1987; Youndt, Snell, Dean and Lepak, 1996), implying a direct effect on financial performance of firm strategy. Consistent with the above argument, the second hypothesis states:

H2: Corporate Strategy has a positive association with corporate financial performance

CSR is a key element of business strategy. Integrating both CSR and business strategy will enhance the performance of companies (Berman et al, 1999).

Strategy theorists such as Andrews (1980, p. 29) identified the relationship between corporate strategy and "the economic and *non economic* contribution [the firm] intends to make to its shareholders, employees, customers, and communities". This implies corporate strategy has a relationship with both CSR and financial performance. Based on prior literature (for example, Berman et al, 1999), both CSR and corporate strategy have some effects on financial performance. By integrating economic, social and environmental responsibility in firm strategy a stronger firm financial performance could result (Karnani, 2007).

Merging CSR and corporate strategy reflects the interactions between both CSR and strategy. They are believed to complement each other. Thus, this study investigates whether, by integrating CSR and corporate strategy, there will be a positive impact on

financial performance. The third hypothesis is based on the above argument and is stated as:

H3: The integration of CSR and Corporate Strategy has a positive impact on financial performance

The studies that examine the relationship between CSR, Corporate Strategy and Financial Performance have found a mixed results. Hills and Snell (1988) recommended the importance of studies which address the issue of how corporate strategy might be a mediator in the relationship between CSR and financial performance. The mediation effects of corporate strategy on the relationship between CSR and financial performance is based on the *Intrinsic Stakeholder Commitment Model* (Berman et al, 1999). They argued that the interests of stakeholders have intrinsic value, enter a firm's decision making prior to strategic considerations, and form a moral foundation for corporate strategy. This means that CSR would not have direct impacts on the financial performance. According to Berman et al (1999), the intrinsic stakeholder commitment model means a firms's commitment to corporate social responsibility is based on moral principles rather than on a desire to use stakeholder engagement solely to maximise profits. In short, a firm establishes certain fundamental moral principles that guide how it does business (i.e. how it treats stakeholders) and use the principle to drive corporate strategy (Berman et al, 1999, p. 492).

The mediation effect of firm strategy on the relationship between CSR and financial performance is expressed in the fourth hypothesis:

H4: Stakeholder engagement will drive corporate strategy, which in turn will affect firm financial performance.

Research design
Sample and data

This study focuses on the companies that are publicly listed on the Australian Stock Exchange (ASX).The sampling period is for four fiscal years from 2004 to 2007. Since there are no government regulations that make corporate social responsibility reporting compulsory, the selection of companies depends on the companies also being listed as a member of the Dow Jones Sustainability World Index (DJSI World), which is used as the measure of corporate social responsibility performance of companies.

The Dow Jones Sustainability Indexes are cooperation between the Dow Jones Indexes, STOXX Limited[352] and SAM Group[353]. By bringing together the expertise of two leading index providers and the world-renowned pioneer in sustainability investing, the DJSI has a strong foundation to meet the growing market demand for professional, objective and reliable sustainability benchmarks.

The Dow Jones Sustainability World Index (DJSI World) comprises more than 300 companies that represent the top 10% of the leading sustainability companies out of the biggest 2500 companies in the Dow Jones World Index. The DJSI World is free float market capitalization-weighted — i.e. based on the number of free float shares outstanding for each of the component stocks[354]. Companies which do not disclose the information or data required in this study were eliminated from the sample. This is to avoid any misrepresentation in the data analysis. The sample also removes firms which at the time of the data collection had not published the annual report for 2007.

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[352] STOXX Limited is a joint venture of Dow Jones & Company for the development, maintenance, distribution and marketing of the Dow Jones STOXX® indices. STOXX Limited issues licenses for the commercial use of the Dow Jones STOXX® indices. The design, development and delivery of the Dow Jones STOXX® indices ensure that they are investable, tradable and transparent; key factors that underlie their commercial success. Dow Jones STOXX® indices are licensed to companies around the world as the basis for investment products.
[353] SAM Group, an independent Sustainable Asset Management Group, a company which based in Zurich, Switzerland. It was established in 1995 and was among the first asset managers to specialize in the field of sustainability-driven investments.
[354] Information is available in the Dow Jones Sustainability Indexes website; http://www.sustainability-indexes.com/07_htmle/indexes/djsiworld_keyfacts.html.

Tilt (1994) tested hypotheses on the environmental disclosure performance by using industry sectors to avoid any biasedness that may exist in the data. However, there is no elimination made for any specific industries or sectors in this research. Firstly, industry is a major consideration in developing the DJSI World and the different industry characteristics of companies are accounted for by including the industry variable as a dummy variable in the regression model.

The initial sample was the top 100 companies listed on the ASX which also were members of the DJSI World. The top 100 companies are ranked based on the market capitalization in 2007. Due to the lack of required financial data in the annual reports in 30 of the companies, the final sample size is 70 firms. Data from these firms was collected for the years 2004 to 2007, for a total sample size of 280.

Data was obtained from the Dow Jones Sustainability Index (DJSI) for a measurement of CSR for companies in the sample. The Dow Jones Sustainability Indexes are the first global indexes tracking the financial, social and environmental performance of the leading sustainability-driven companies worldwide. DJSI is prepared by the SAM Group, an independent Sustainable Asset Management Group, a company which based in Zurich, Switzerland. It was established in 1995 and was among the first asset managers to specialize in the field of sustainability-driven investments. The CSR data was requested from the SAM Group itself with a signed agreement between the author and the SAM Group as the data is protected and secured and only available for authorised individuals or parties. The data that was received is the total company scores from the Corporate Sustainability Assessment Results of DJSI invited companies for the period of 2004 to 2007.

For other variables, data was obtained from the company Annual Reports which were accessed from Connect4 available at the University of Adelaide e-Library. Connect4 is the database which has a compilation of annual reports. The Annual Report Collection

in the Connect4 is a selection of the Top 500 annual reports from companies which are listed on the Australian Stock Exchange.

Experimental design

There are four hypotheses that will be tested in this research. The first three hypotheses are based on a strategic stakeholder management perspective in which it is assumed that the objective of managers is to maximise profits, not to advance the morally legitimate claims of stakeholders other than shareholders (Freeman, 1984; Berman et al, 1999). In other words, managers care for other stakeholders merely to realize the goal of maximising shareholders' wealth. The models are known as the direct effects model and the integration effects model. In the direct effects model, managers' effort towards the stakeholder orientation (or engagement) is assumed to have a direct effect on corporate financial performance independent of corporate strategy. While in the integration effects model, the managerial orientation toward stakeholders by complying with corporate social responsibility does impact financial performance via integration with corporate strategy to give stronger impact on the financial performance (Berman et al, 1999). The third hypothesis is based on the ethical or intrinsic perspective of Stakeholder Theory. The model used to test this hypothesis is the mediation effects model. In this model, "managerial relationships with the stakeholders are based on normative, moral commitments rather than on a desire to use those stakeholders solely to maximise profits" (Berman et al, 1999, p. 494). This perspective investigates how stakeholder engagement (represented by CSR) contributes to a better affiliation with the environment and society and enters the decision making of the firm prior to strategic consideration which in turn impacts on the financial performance (Berman et al, 1999).

Most researchers use the Direct Effects Model to find the relationship between CSR and financial performance (Waddock and Graves, 1997; Tsoutsoura, 2004).

The direct effects models assume that corporate strategy and the level of CSR will have a direct effect on corporate financial performance. CSR and corporate strategy will have a direct effect on corporate financial performance separately and independently. These models can be expressed as;

Financial_Performance$_{it}$ = β1 + β2 CSR$_{it}$ + β3Size$_{it}$ + β4Risk$_{it}$ + e$_{it}$ **Model 1**

Financial_Performance$_{it}$ = β1 + β2Corporate_Strategy$_{it}$ + β3Size$_{it}$ + β4Risk$_{it}$ + e$_{it}$ **Model 2**

In the integration effects model both CSR and Corporate Strategy are argued to complement each other to have a more positive impact on financial performance. This model thus includes the interaction effect between corporate strategy and CSR.

*Financial_Performance$_{it}$ = β1 + β2 CSR$_{it}$ + β3Corporate_Strategy$_{it}$ + β4Σ (Corporate_Strategy$_{it}$ * CSR$_{it}$) +*

β5Size$_{it}$ + β6 Risk$_{it}$ + e$_{it}$ **Model 3**

The mediation effects model assumes that CSR is a variable which merely impacts on corporate strategy but not financial performance, and that corporate strategy is the only variable that will impact on financial performance i.e. corporate strategy is a mediator between CSR and financial performance. Perfect mediation is achieved when CSR does not have any impact at all on the firms' profitability. Two models are used: Model 1 examines the direct effect on financial performance of CSR and Model 5 includes corporate strategy. Corporate strategy will be a perfect mediator if the results show that the CSR variable has no effect on financial performance in Model 4 (Berman et al, 1999).

Financial_Performance$_{it}$ = β1 + β2 CSR$_{it}$ + β3Corporate_Strategy$_{it}$ + β4Size$_{it}$ + β5 Risk$_{it}$ + e$_{it}$

Model 4

There are three major variables that form the basis of the hypotheses; corporate social performance, corporate strategy and financial performance. Financial performance is the dependent variable and the measure is the accounting based Return on Assets (ROA) (Return on Equity (ROE) is used as a robustness check). Accounting measures are used for ease of comparison with empirical studies (or example, Tsoutsoura, 2004, Lee, 2006 used both ROA and ROE as the proxies for financial performance). In addition, accounting measures of performance can provide information about how earnings respond to differing managerial policies (Cochran and Wood, 1984; and Lee, 2006). Accounting measures can also have the added advantage of signalling the success of CSR in terms of productivity increases, asset utilisation and the returns afforded to both debt and equity holders, as is often hypothesised by CSR supporters. Finally, McGuire, Sundgren and Schneeweis (1988) have demonstrated that accounting returns (ROA) are superior predictors of CSR relative to market measures. Market measures of financial performance are the obvious alternative, but they suffer from the weakness of being too comprehensive, in the sense that they impound future expectations, including returns attributable to monopoly power and managerial performance. Thus, this research is consistent with Waddock and Graves (1997), Berman et al (1999), Tsoutsoura (2004) and Lee (2006), in using accounting measures of financial performance

A summary of the measurements for these variables is presented in Table 2.

Independent variables used in this study are corporate social responsibility and corporate strategy. The Total Company Scores from the Corporate Sustainability Assessment Result prepared by the SAM Group are used for the measurement of CSR performance. The scores reflect the actual company's performance across economic,

environmental and social criteria and also represent the stakeholder engagement performance of a company. The higher the total score, the better the measurement of Corporate Social Responsibility performance. The maximum total score can be achieved by a company is 100. The company total score is comprised of the dimension scores which are measured based on the criteria shown in Table 1.

Table 1
Corporate Sustainability Assessment Criteria

Dimension	Criteria	Weighting (%)
Economic	Codes of Conduct / Compliance / Corruption&Bribery	5.5
	Corporate Governance	6.0
	Risk & Crisis Management	6.0
	Industry Specific Criteria	Depends on Industry
Environment	Environmental Performance (Eco-Efficiency)	7.0
	Environmental Reporting*	3.0
	Industry Specific Criteria	Depends on Industry
Social	Corporate Citizenship/ Philanthropy	3.5
	Labor Practice Indicators	5.0
	Human Capital Development	5.5
	Social Reporting*	3.0
	Talent Attraction & Retention	5.5
	Industry Specific Criteria	Depends on Industry

*Criteria assessed based on publicly available information only

As shown in the table, industry specific criteria for each dimension comprised 50% of the total weighting. The criteria vary across industry as different industries have different values and characteristics. For example for Amcor Ltd (materials industry), the industry criteria for social dimension consists of a standard for suppliers which will be different

from the criteria in the banking industry because of diverse business activities and products.

Sam Group collected the DJSI data by using the information from the following sources:

SAM Questionnaires

SAM Questionnaires specific to each of the DJSI sectors are distributed to the CEOs and heads of investor relations of all the companies in the DJSI investable stocks universe. The questionnaire is designed to ensure objectivity by limiting qualitative answers through predefined multiple-choice questions. The completed company questionnaire, signed by a senior company representative, is the most important source of information for the assessment.

Company Documentation

Documents analysed include: Sustainability reports, environmental reports, health and safety reports, social reports, annual financial reports, special reports (e.g. on intellectual capital management, corporate governance, R&D, employee relations), all other sources of company information; e.g. internal documentation, brochures and website.

Media and stakeholder reports as well as other publicly available information

Analysts review media, press releases, articles, and stakeholder commentary written about a company over the past year.

Personal Contact with Companies

Each analyst personally contacts individual companies to clarify open points arising from the analysis of the questionnaire and company documents. This contact is made either via telephone, company visits or meetings with the company at either the SAM office or at public events.

Corporate strategy is measured using similar variables employed by Hambrick (1983) and Berman et al (1999). They are selling intensity, capital expenditure, capital intensity and efficiency. Selling intensity shows the willingness of firms to spend on marketing

and selling related activities in an attempt to differentiate itself from its rivals. If the company is aiming to be successful in its strategy, it must have the ability to charge above the market price because it will stimulate customer insight that the product is special (Berman et. al, 1999). Selling intensity also reflects the strategy of a company to advertise its business in order to compete with its rivals and to improve its financial performance. The higher the selling intensity, the more the company concentrates on the marketing strategy relative to the sales revenue.

Capital expenditure refers to the funds used by a company to acquire or upgrade physical assets such as property, industrial buildings or equipment. This type of outlay is made by companies to maintain or increase the scope of their operations. In terms of accounting, expenditure is considered to be a capital expenditure when the asset is a newly purchased capital asset or an investment that improves the useful life of an existing capital asset (Investopedia, 2007). Capital expenditure reflects the strategy of the company as the amount allocated to the capital expense illustrates the company's enthusiasm to invest on a project that may benefit the company after planning investigations and consultation with stakeholders.

Capital intensity is the amount of fixed or real capital present in relation to other factors of production; especially labour. It is the willingness of the company to spend more on capital (assets) resources than labour resources. A higher investment on capital resources indicates that the company is moving towards a higher productivity of labour. Since the use of tools and machinery makes labour more effective, rising capital intensity pushes up the productivity of labour. This reflects a strategy of the company to increase the productivity of labour and improve the corporate social performance as well as corporate financial performance.

The final measurement for corporate strategy is the efficiency ratio. The efficiency of a company reflects the degree of profitability of that organization. This also indicates the strategy of that organization in reducing the cost per unit of output. This study uses the efficiency ratio as a strategy proxy, not a financial performance proxy because what is intended to be highlighted here is how well the company does in reducing the cost per unit of output.

The measurement of these variables is summarised in Table 2.

Table 2
Variables and their measurement

Variables	Measurement	Denoted by:
Financial Performance		
Return on Assets	Net Profit After Tax /Total Assets	ROA
Return on Equity	Net Profit After Tax /Total Equity	ROE
Corporate soclai responsibility (CSR)	Total Score of Dow Jones Sustainability World Index	TOTAL_SCORE
Strategy variables		
Selling intensity	Marketing, advertising, selling expenses/net sales	SELLING_INTENSITY
Capital expenditures	(Net capital expenditures / net sales) x 100	CAPITAL_EXPENDITURES
Capital intensity	Total Assets / Number of employees	CAPITAL_INTENSITY
Efficiency	Net Profit / Net sales	EFFICIENCY
Control variables		
Risk	Total liabilities/Total equity	RISK
Size	Log of total assets	SIZE
CSR*Corporate strategy		
CSR*Selling intensity		CSR_SELL
CSR*Capital expenditure		CSR_CAPEX
CSR*Capital intensity		CSR_CAPIN
CSR*Efficiency		CSR_EFF

Control variables used in this study are risk and size, consistent with Waddock and Graves (1997), Berman et al (1999) and Lee (2006). Risk is believed to impact significantly on the company's performance, thus is an important control variable for this

study. Weston and Brigham (1981) pointed out that the debt/equity position of a firm represents the *financial* risk to which the firm is exposed. The value of taking such risk is that a higher return on investment for the firm's owners can be achieved. Therefore, the characteristic of return is directly related to financial risk. This suggests that the debt-equity ratio – the financial risk – may influence financial performance in either positive or negative associations. Practitioners see financial risk as the most important concern when formulating the firm's financing mix . Thus, most top management is concerned primarily with financial risk and decision making control when assessing the debt-equity policy of the firm (Donaldson, 1961 and Barton, 1987).

Firm size can impact significantly on financial performance. The Dow Jones Sustainability Index composite group of leading Corporate Social Performance (CSP) firms are found to exhibit much larger market capitalisations when compared to the lagging CSP firms, thus firm size is expected to, and has been shown to play a significant role in distinguishing leading and lagging CSP firms (Lee, 2006). Moreover, Lee (2006) argued that the only non-performance variable consistently found to characterise leading CSP firms is firm size. In addition, size can also impact significantly on the financial performance of a firm since generally bigger firms have higher profits than smaller firms. Therefore, this variable is also controlled in this study. The measurement of these variables is described in Table 2.

Industry, company and year characteristics would have some effects on the relationship between CSR, corporate strategy and financial performance. Different industries, companies and years face different portfolios of stakeholders with different degrees of activity in different areas (for example Rowley and Berman, 2000). While there is considerable debate regarding the magnitudes of industry, company and year level

effects (Powell, 1996; Rumelt, 1991), the agreement is that those factors "matter," in the sense that they explain a non-negligible percentage of the variation in profitability across firms (McWilliams and Siegel (2000). Thus, 'industry' should be included in the model, along with 'company' and 'year', as dummy variables.

Data analysis

The data was analysed using Panel Generalized Least Squares Regression in EViews version 5.1. The data is in the form of panel data of 70 Australian companies for the period 2004 to 2007. The pooled cross-time data requires regression analysis to be in the form of panel least squares in order to consider the effect of variation in the cross section (companies) and over time (years).

Tests on the data indicate there are probable violations of the heteroskedasticity and serial correlation assumptions. Panel GLS corrects for both cross sectional heteroskedasticity and serial correlation[355].ensuring that the estimates are best linear unbiased estimators. In addition, the large sample size (n=70) should mitigate any normality problems with the data as the Central Limit Theorem predicts that for larger sample sizes (n>30) the distribution of the sample would approach normal (Gujarati, 1995, p.103.). In addition, tests for multicollinearity indicate there is no significant correlation between the explanatory variables. Additional assumptions need to be made with panel data, as one individual year may be different from other years, and individual firm and industry characteristics may not be captured in the existing independent variables. These unobserved effects would be captured by the error term. If the unobserved effects are correlated with the any of the independent variables, the

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[355] GLS incorporates the nature of heteroskedasticity and autocorrelation in the estimation by tramsforming the variables with each firm weight. Ordinary Least Squares (OLS) does not do this. If there is no heteroskedasticity or autocorrelation, the estimates given by OLS and GLS should be the same (Gujarati, 1995)

estimates given from the regression could be biased and inconsistent since the error term is now also correlated with the independent variables (Gujarati, 1995). To test the validity of the assumption that coefficients and intercepts of the firms are constant across time the models are estimated in E Views using fixed effects. The fixed effects estimates include all dummy variables for each firm, industry and year. The redundant fixed effects likelihood ratio indicates that fixed effects[356] are not necessary to include in the models i.e. the models should not incorporate all dummy variables for each firm, industry and year. However, some firms, industries and years show significant association with both ROA and ROE. The coefficients for these dummy variables are statistically significant. In effect, this is partially controlling for firms, industries and years that show significant heterogeneity, and it also avoids omitted variable bias.

Results and discussion

The results from descriptive statistics of the dependent variables are presented in Table 3. The mean and median values for both ROA and ROE are reasonably consistent across the four years of the study, although the standard deviation suggests a wide range of values in each year.

Table 3
Descriptive statistics

Variable	Mean	Median	Std. Dev.
ROA	0.0743	0.0614	0.0734
ROE	0.1574	0.1551	0.3595
TOTAL_SCORE	37.4900	30.6854	20.2227
SELLING_INTENSITY	0.05734	0.0350	0.0674
CAPITAL_EXPENDITURES	0.0844	0.0224	0.1585

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[356] By including fixed effects, E Views would include dummy variables for each firms and each year. It could be manually done by including dummy variables for each firms and year in ordinary regression as to see their significance. By doing it manually, we could select which companies that show significant homogeneity to be included in the final model.

CAPITAL_INTENSITY	91.9942	84.8929	261.8953
EFFICIENCY	0.2635	0.1262	0.4328
RISK	4.5120	1.1603	23.1670
SIZE	6.7832	6.7069	0.6769

The mean and median scores for CSR show an increase from 2004 to 2005, but are reasonable consistent in from that year. For the strategy variables, there is a wide variation in the results across all years, although the mean and median values are reasonably consistent, except for both capital intensity and selling intensity which show a substantial increase in 2006 and 2005 respectively. These annual peaks may explain some of the significant yearly fixed effects. The measure for risk shows a substantial variation, particularly in 2005, whereas the mean and median of the size variable are consistent over all years.

The regression results testing the hypotheses with ROA as the dependent variable are summarised in Table 4. The results using ROE were done as a robustness check and produced similar results.

Table 4
Regression results with ROA as the measure of firm performance

Independent Variable	Model 1	Model 2	Model 3	Model 4
CSR	0.001149***		0.000874**	0.000621***
CAPITAL_EXPENDITURES		-0.086363***	-0.041770	-0.078241**
CAPITAL_INTENSITY		6.49E-06	4.99E-05**	7.19E-06
EFFICIENCY		0.089012***	0.045484	0.062818***
SELLING_INTENSITY		-0.000518	-0.090442***	-0.000537
CSR_CAPEX			0.001079	
CSR_CAPIN			-1.50E-06***	
CSR_EFF			0.000360	
CSR_SELL			0.004122***	
Control Variable				
SIZE	-0.136516***	-0.098919***	-0.121797***	-0.140224***
RISK	-0.000117**	-0.000138*	-7.94E-05**	-0.000108**
Adjusted R-squared	**0.660419**	**0.724212**	**0.738689**	**0.740061**
Durbin-Watson stat	**1.526873**	**1.536502**	**1.860211**	**1.808375**

Hypothesis 1 investigates the relationship between corporate social performance and corporate financial performance and is tested using Model 1. The results show there is a positive and significant relationship between the total score of corporate social responsibility and the financial performance. The result is consistent with most US studies (for example Waddock and Graves, 1997, Berman et al, 1999, and Tsoutsoura, 2004), although these studies used another measure for corporate social performance – the KLD Sustainability ratings. When compared with other Australian studies, the results are inconsistent with Wright and Ferris (1997), and McWilliams and Siegel (2000), who found either a negative association or an inconclusive relationship between CSR and financial performance. McWilliams and Siegel (2000) used a dummy variable[357] to measure the corporate social performance. Although this method is valid for statistical inferences, it is not a strong measurement of the social performance of firms since it is difficult to identify whether the company is socially responsible without a thorough investigation.

The second hypothesis examines the relationship between corporate strategy and financial performance and predicted that corporate strategy has a significant effect on the financial performance of a company. The results are shown in Table 3 as Model 2 and suggest that some elements of corporate strategy do have a significant impact on financial performance. Capital expenditure is significantly negatively associated with financial performance. A heavy capital investment is claimed to act as a barrier to exit from unprofitable businesses (Berman et. al, 1999), and so capital expenditures generally have negative associations with financial performance. According to Berman et. al (1999), environmental responsiveness can enhance firm efficiencies and drive down operating costs. As a result, efficiency has a positive

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[357] The variable had a value of one if the firm adopted corporate social responsibility and a value of zero if it had not

relationship with firm financial performance. This is consistent with the results of this study where efficiency has a significant positive association with financial performance. Capital intensity is predicted to have a positive association with financial performance because it can lead to an increase in the productivity of labour by utilising the assets for production. Such actions improve the firm's overall cost structure and hence operating performance. The results show a positive but insignificant relationship between capital intensity and financial performance. Selling intensity has a negative, but not significant association with financial performance. The expectation would be that spending on advertising and related selling costs should improve financial performance.

Integrating corporate social performance with corporate strategy may have positive impacts on the financial performance. This is the basis of the third hypothesis. The results (Model 3) show that with the addition of the interaction effect between corporate social performance and corporate strategy, the model is significantly improved, with an increase in R^2. Two of the interaction variables are significantly related to financial performance (namely selling intensity and capital intensity), which suggests that stakeholder relationships interact with firm strategy to affect financial performance. This is consistent with Berman et al (1999).

 The final hypothesis was based on an ethical perspective of Stakeholder Theory and predicted that strategy variables would mediate the relationship between stakeholder engagement and financial performance. Mediation would exist if the stakeholder engagement variable had no relationship with financial performance when the strategy variables were included in the regression. The results are shown in both Model 1 and Model 4 in Table 4 and show there is no mediation effect of corporate strategy on the links between corporate social performance and financial performance. Corporate social performance has a positive and strong effect on the financial performance and is still

significant when corporate strategy variables are included in the first model. This is consistent with McWilliams and Siegel (2000) and Berman et al (1999).

Conclusions

There were four hypotheses that were tested in this study in order to investigate the relationships between CSR, corporate strategy and firm financial performance. Tests investigated the direct effect of stakeholder engagement (estimated using CSR scores) and corporate strategy on financial performance. The results suggest that better corporate social responsibility contributes to an increase in firm financial performance. In other words, it is important for companies to engage with stakeholders to ensure the company financial performance is maximised. There were two variables of firm strategy (capital intensity and efficiency) that showed an association with financial performance. Capital expenditure is significantly negatively associated with financial performance as predicted and efficiency positively associated with financial performance. A heavy capital investment can act as a barrier to exit from unprofitable businesses hence reducing financial performance and efficiency can reduce operating costs. That different strategies can affect financial performance in different ways has important implications for management.

The integration between CSR and corporate strategy and the effect of this integration on corporate financial performance was also tested, and showed that, in general, integration effects can impact on financial performance. This suggests that it is beneficial for companies to take into account their responsibility towards stakeholders in their strategy to better the fiscal position of the company.

The mediation effect of corporate strategy on the CSR – financial performance relationship was also investigated. No mediation effects were found. Corporate social performance was found to be positively associated with financial performance before and after the inclusion of firm strategy into the model. This suggests that a company which engages with stakeholders is doing so to maximise the firm's profitability, rather than for ethical reasons, affirming the opinion of Friedman (1970) that the social responsibility of firms is to maximise shareholder returns.

This research contributes to the literature on the relationships between stakeholder engagement, corporate strategy and financial performance, in particular for Australian companies. It adds to our understanding of the relationship between the firm and stakeholders, and the motivations for firms to engage in corporate social responsibility. One of the major limitations to this research is the choice of indexes to measure the sustainability performance of companies. Various measurements have been used in other studies and cause uncertainty in the actual level of social performance among companies. Thus it is difficult to the compare results of research studies. In addition, Epstein and Roy (2001) claimed that the recognition and measurement of social and environmental strategies is particularly complicated as they are usually related to a high level of uncertainty, a long time horizon and impacts that are often difficult to quantify. However, despite the DJSI having some possible shortcomings, my review, alongside a recent study by Beloe et al (2004), suggests the DJSI (i.e. SAM) provides amongst the world's best CSR (sustainability) ratings to date (Lee, 2006). Furthermore, the results of this research would indicate that the DJSI ratings are of sufficient quality to convey information that has significant economic value. The limited sample period was because of the difficulty in getting the secured data from SAM Group. The single index for CSR is also a limiting factor in the study. Using a firms relationship with different group of stakeholders would further our understanding of the interactions between stakeholder

engagement and firm performance. There were also some omitted variables identified in this study that may cause some bias in the results of the hypothesis testing. For example, controlling for the operating environment may have improved the regression results, although some of this variation may have been captured in the risk and size control variables, as well as industry classification, year and cross sectional variation among companies. Using a market measure of financial performance, for example total shareholder returns could also be used as a robustness test for the regression results (McWilliams and Siegel, 2000).

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Empirical Evidence on
Management Forecast Disclosures in Thailand

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Abstract

This study provides empirical evidence on management forecast disclosure practices and investigates the information content of management forecast disclosures in Thailand. We hand-collect 4,483 management forecast disclosures of listed companies in the Stock Exchange of Thailand during January 2005 – June 2007. Our results show that (1) almost 70% of Thai listed companies voluntarily disclose their management forecasts; (2) over 60% of forecast firms disclose more than five forecasts within one-year period; (3) almost 70% of management forecasts are disclosed prior to the end of accounting period; (4) 46% (10%) of management forecasts are stand-alone annual (quarterly) forecasts while 44% of management forecasts are concurrent annual-quarter forecasts; (5) stand-alone quarterly (annual) forecasts are more likely to be forecasts of earnings (revenues); quarterly forecasts issued simultaneously with annual forecasts are more likely to be forecasts of revenues and annual forecasts issued simultaneously with quarterly forecasts are more likely to be forecasts of revenues as well;(6) 44% (64%) of quarterly revenues (earnings) forecasts are in qualitative form and 40% (33%) of quarterly revenues (earnings) are in semi-numeric form while 43% (44%) of annual revenues (earnings) forecasts are point estimates and 24% (22%) of annual revenues (earnings) forecasts are in semi-numeric forms.

Consistent with prior research, our empirical evidence shows that absolute cumulative market-adjusted returns surrounding management forecast date are significantly positive, suggesting that management forecast disclosures of Thai listed firms are informative. Industries the forecast firms are in, forecast timing, and forecast horizons do not seem to affect information content of management forecasts.

1. Introduction

A management forecast (MF) is one type of voluntary disclosures released prior to an

earnings announcement date. Literatures on management forecasts traditionally examines (i)

the information content of management forecasts [e.g., Patell (1976), Nichols and Tsay (1979),

Penman (1980), and Waymire (1984)], (ii) management motives to issue management forecasts

[e.g., Cox (1985), Imhoff (1978), Ruland et. al. (1990), Kasznik and Lev (1995)], and (iii)

differential market reactions to management forecasts [e.g., Pownall et. al. (1993), Libby and

Tan (1999), Atiase et. al. (2005, 2006a and 2006b)]. The studies are limited to US firms.

There are a few studies done in other countries but most of them are limited to management forecasts which are disclosed on a mandatory basis such as management forecasts issued by IPO firms which are required to provide management forecasts in prospectuses. These studies investigate management forecast disclosures provided by Taiwan IPO firms [Jaggi et. al. (2006)], Malaysian IPO firms [Jelic et. al. (1998)], and Danish IPO firms [Gramlich and Sorensen (2004)]. Kato et. al. (2006) examine management forecast disclosures in Japan in general setting. However, management forecast disclosure in Japan is a mandatory disclosure.

Management forecast disclosures in Thailand, provided on a voluntary basis, remain unexplored. Therefore, this study aims at providing empirical evidence on management forecast disclosures in Thailand as well as information content of the management forecast disclosures.

We hand-collect management forecast disclosures issued by companies listed on the Stock Exchange of Thailand (SET). Our sample includes 4,483 management forecast disclosures issued during 12-month period starting January 2005 and 12-month period starting July 2006. Our results show that 68% of Thai listed firms voluntarily disclose their forecasts at least once during our sample periods. On average, each forecast firm issues 8-9 forecasts each year. Firms in property and construction, resources, and technology sectors are more likely to issue management forecasts than are other firms. Specifically, on average, each forecast firm in these sectors issues 10-12 forecasts each year. A plausible reason is that most of firms in these industries have a large number of analysts following and thus firms may maintain a good relationship with financial analysts by issuing management forecasts.

Moreover, this study examines how early forecast firms issue their forecasts. We find that almost 70% of total management forecasts, regardless forecast horizon, are disclosed before end of accounting period, rather than after end of accounting period. A plausible reason is that the SET does not encourage firms to disclose short term forecasts. Our results show that forecast firms issuing quarterly forecasts prior to (after) the end of accounting period, on

average, issue their forecasts 6 weeks prior to (3 weeks after) the end of accounting period. For annual forecasts, forecast firms issuing their forecasts prior to (after) the end of accounting period, on average, issue their forecasts 6 months prior to (one month after) the end of accounting period.

Additionally, this study investigates forecast horizons and forecast items firms choose for their forecasts and documents that forecast firms are more likely to issue annual forecasts, as opposed to quarterly forecasts, and that forecast firms are more likely to issue their quarterly forecasts concurrently with their annual forecasts than they do separately. As for forecast items, our results show that annual forecasts (both stand-alone and concurrent annual-quarter forecasts) are more likely to be revenue annual forecasts; stand-alone quarterly forecasts are more likely to be earnings quarterly forecasts while concurrent annual-quarter forecasts are more likely to be revenue quarterly forecasts. Overall, regardless forecast horizons, firms are more likely to provide revenue forecasts than earnings forecasts. A plausible reason is that the SET does not encourage firms to issue earnings forecasts.

In addition, this study examines forecast forms firms choose for their forecasts and finds that quarterly revenue and earnings forecasts are more likely to be in the qualitative and semi-numeric forms; annual revenue forecasts are more likely to be point estimates and in semi-numeric form while annual earnings forecasts are more likely to be in the qualitative form. We also document that most of earnings forecasts, both quarterly and annual, reveal net income figures.

Finally, this study investigates whether management forecasts of Thai listed firms are informative and documents that absolute cumulative abnormal returns surrounding management forecast dates are significantly positive, suggesting that management forecast disclosures are informative. Our results are consistent with prior studies on information content of management forecasts of US firms. Partitioning the sample in various subsets, our empirical evidence shows that industries forecast firms are in, forecast timing, and forecast forms do not seem to affect

information content of management forecasts. Specifically, management forecasts of firms in all industries are informative; management forecasts issued prior to and after the end of accounting period are both informative; and management forecasts in all forecast forms are informative.

The study is the first study that provides empirical evidence on management forecast practices and the usefulness of management forecasts in Thailand. Our results provide contributions to many parties, namely, capital market participants, management, and the Stock Exchange of Thailand.

This study also provides a contribution to the academic literature, specifically to accounting research in Thailand. This is the first study to explore management forecast practice and examine the usefulness of management forecasts in Thailand. The findings will assist academic researchers in investigating other aspects of accounting research on management forecast disclosures.

Discussion of prior research on management forecast disclosures is presented in section 2. Research methodology and data collection are described in section 3. A discussion of empirical results is shown in section 4 while conclusion and contributions are discussed in section 5.

2. Prior Research

2.1 Management forecast disclosure in practice

Management forecast is an important source of information to market participants since management has access to superior information which is not generally available to outsiders. Firm has several alternatives to strategically disclose its management forecasts on forecast characteristics such as forecast frequency, forecast horizon, forecast timing, forecast item, and forecast form. Firms can discretionarily choose how frequently they disclose management forecasts. Prior study shows a sporadic pattern of management forecast disclosures. McNichols (1989) shows that 69% of her sample firms provide only one forecast during five-year

sample period (1979-1983). However, recent study shows that number of forecast firms gradually increases. Collecting data from First Call database during 1994 to 2003, Anilowski et. al. (2007) find that both number of forecasts and forecasting firms increase over the sample period. The number of forecast firms increases from 95 firms (2%) in 1994 to 1,211 firms (27%) in 2003. Moreover, they also show that forecast firms frequently more frequently provide management forecasts ranging from one forecast per year in 1994 to 5 forecasts per year in 2003.

For forecast horizon, firms may provide quarterly or annual management forecasts. According to 444 management forecasts issuing during 1980 to 1987, Pownall et. al. (1993) document 183 forecasts (41%) are quarterly forecasts while 261 forecasts (59%) are annual forecasts. However, recent study finds that a trend for US firms to increase the extent to which they provide quarterly forecasts. Anilowski et. al. (2007) find 55% of 31,230 management forecasts disclosed during 1994 to 2003 are quarterly forecasts while 45% of them are annual forecasts. Disaggregating their samples in each testing year, they also find that firms are more likely to provide quarterly forecasts than annual forecasts.

Alternatively, firms can choose to disclose management forecasts before or after end of accounting period (i.e., forecast timing). Partitioning management forecast samples issuing in 1994 to 2003 by forecast timing, Anilowski et. al. (2007) find 51% of management forecasts are disclosed before end of accounting period while 49% of them are issued after end of accounting period.[358] Pownall et. al. (1993) show number of days between forecast date and end of accounting period of quarterly forecasts is longer than that of annual forecasts. On average, number of days for quarterly forecasts is 71 days while that of annual forecasts is 201 days.

To disclose their management forecasts, firms can provide management forecasts with any items in income statements (e.g., revenue, gross profit, or net income). Prior study documents that firms are more likely to provide earnings forecasts than revenue forecasts.

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[358] They provide empirical evidence on forecast timing only for quarterly management forecasts.

Investigating management forecast issuing in 1978 to 1982, Han and Wild (1991) find of 263 forecast samples, 162 forecasts (62%) are earnings forecasts while 101 forecasts (38%) are earnings and revenue forecasts. Collecting 3,459 management forecasts during October 2000 to July 2002, Feldman et. al. (2003) find 59% of their samples are earnings forecasts while 41% of them are revenue forecasts.

Firms can select to issue management forecasts in quantitative or qualitative forms. Quantitative management forecasts are numerical such as point, range, open-end (e.g., minimum or maximum) while qualitative management forecasts are non-numerical which are provided only trend for a given forecast period. An extensive literature on management forecast mostly focus on quantitative estimates (e.g., point and range) (e.g., Penman (1980), Ajinkya and Gift (1984), Waymire (1984), and Pownall and Waymire (1989)) because these forecast forms are easier to measure forecast bias. However, recent study provides descriptive evidence that more than half of management forecast samples are in qualitative form. Kasznik and Lev (1995) show that more than half of their management forecast samples are in qualitative disclosures. Investigating management forecast disclosures in Netherlands, Dorsman et. al. (2003) find that over 60% of listed companies in Netherlands release qualitative management forecasts.

2.2 Information content of management forecast disclosures

A long-standing prior research finds empirical evidence that management forecasts are informative. Early empirical research investigates price reactions to management forecasts. For example, Patell (1976), Nichols and Tsay (1979), and Penman (1980) find that good news forecasts are associated with significant positive stock price reaction around forecast date while they do not observe significant negative stock price reaction for bad news forecasts. Waymire (1984) examines the information content of both good and bad news forecasts by using analyst's forecasts as a proxy for expected earnings and finds good (bad) news forecasts are

associated with significant positive (negative) abnormal returns around the date of forecast. Ajinkya and Gift (1984) also document informativeness of management forecasts. They find that financial analysts revise their forecasts in response to management forecast disclosures.

More recent study also finds the information content of management forecast disclosures. For example, Kasznik and Lev (1995), Atiase et. al. (2005, 2006a, and 2006b) and Supattarakul (2003) find a positive association between earnings news convey through management forecasts and price reaction around forecast dates. Prior studies mentioned above are limited to management forecasts of US firms. There are a few studies done in other countries but most of them are limited to investigate management forecasts issued by IPO firms. Most of IPO firms in many countries are required to provide management forecast in their prospectuses. Therefore, most of management forecasts of IPO firms are on a mandatory basis, not a voluntary basis. Jaggi et. al. (2006) examine 759 management forecasts issued by Taiwan IPO firms from 1994 to 2001. They find that firms are likely to provide optimistic forecasts than conservative forecasts. To meet their targets, those firms subsequently manage reported earnings instead of revise their forecasts. Gramlich and Sorensen (2004) investigate 58 Danish IPO firms that issue management forecasts between 1984 and 1996. Their evidences strongly support that Danish IPO firms engage in accrual management to meet their management forecasts. Jelic et. al., (1998) examine the accuracy of earnings forecasts in IPO prospectuses of Malaysian firms and find that on average, the absolute forecast error is 55%.

Kato et. al. (2006) examine management forecast disclosures in Japan in general setting, not restrict to IPO firms. However, management forecast disclosures in Japan are provided on a mandatory basis. Examining management forecasts issued in 1997 to 2006, they find that management forecasts in each year are over optimistic. In spite of their systematic over-optimism, management forecasts in Japan are also informative, although the stock price reaction to these forecasts is not as large as is typically observed in US.

In summary, prior studies document that management forecast disclosures are informative. However, most of them are restricted to management forecasts issued by US firms or management forecasts are provided on a mandatory basis. Management forecasts of Thai firms which are disclosed on a voluntary basis remain unexplored. Therefore, this study aims at providing empirical evidence on information content of management forecasts of firms listed on the Stock Exchange of Thailand (SET).

3. Research Methodology and Data Collection

The main objective of this study is to explore management forecast disclosure practices and investigate the information content of management forecast disclosures in Thailand. Samples in this study are management forecast disclosures issued during two 12-month periods: (1) 12-month period starting January 2005 and (2) 12-month period starting July 2006.[359]

We hand-collect management forecasts issued during the specified periods from the NEWSCENTER database and the SETSMART database. In Thailand, other than the Stock Exchange of Thailand (SET) channel (i.e., the SETSMART database), management mostly releases its forecasts through the business press. The NEWSCENTER database is a database containing news articles published in Thailand.

In the collection process, we set the criteria to collect management forecast data as follows: (1) the forecast must contain various keywords such as "expects", "estimates", "targets", etc. and (2) the forecast must be attributed to company officials.

For criterion 1, we define keywords to ensure that an article discloses a management forecast since some articles release the actual performance and criterion 2 ensures that company forecasts in any articles are not estimated by news reporters or financial analysts. As

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[359] The Stock Exchange of Thailand (SET) issued the disclosure guidelines for listed companies in March 2006, therefore, we exclude management forecast disclosed three months before and after the issuance of the disclosure guidelines.

described in Table 1, our initial sample consists of 4,483 management forecast disclosures issued by management of 287 companies listed in the SET.

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4. Empirical Results

Table 1 provides sample construction for descriptive statistics. We require data on the firm-quarter level to analyze characteristics of forecast firms.[360] We remove management forecasts of each firm which are redundant forecasts in each quarter. In doing so, we obtain 1,368 firm-quarters in our sample. We also remove 98 firm-quarters without returns data available in the DATASTREAM database and exclude 79 firm-quarters without earnings data available in the DATASTREAM database. Finally, we obtain 1,191 firm-quarters from 263 firms.

Table 2 separately provides descriptive statistics of all Thai listed firms, forecast firms, and non-forecast firms. In addition to means and standard deviations, Table 2 also summarizes various percentile values for price -deflated unexpected earnings (UE), earnings variations (SD_NI), return variations (SD_RET), and market capitalization (MV).

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Mean of UE of forecast firms is positive (UE = 0.294) while that of non-forecast firms is negative (UE = -13.140). However, mean of UE for forecast firms is insignificantly different from mean of UE for non-forecast firms (t statistic = 0.390). This is inconsistent with the notion that larger earnings surprise firms are more likely to provide management forecast than are smaller earnings surprise firms [Ajinkya and Gift (1984), Kasznik and Lev (1995), and Supattarakul (2003)]. Mean of SD_NI for forecast firms is significantly greater than mean of SD_NI for non-forecast firms (t statistic = 7.583) suggesting that higher earnings variation firms are more likely

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[360] Prior studies on firm's forecast choice also use firm-quarter level in their analysis [Kasznik and Lev (1995) and Supattarakul (2003)].

to provide management forecasts than are lower earnings variation firms. This evidence is inconsistent with prior studies which find that forecast firms have less earnings variability than non-forecast firms [Imhoff (1978), Cox (1985), and Waymire (1985)]. The plausible reason is that high earnings volatility firms are likely to reduce their risk by providing more relevant information to align market expectation. Mean of SD_RET for forecast firms is insignificantly greater than mean of SD_RET for non-forecast firms (t statistic = 1.420). This evidence is inconsistent with prior studies which find that higher return variation firms are more likely to issue management forecasts than are lower return variation firms [Supattarakul (2003), and Chen (2003)]. Finally, Mean of MV for forecast firms is significantly greater than mean of MV for non-forecast firms (t statistic = 8.245). This is consistent with the notion that larger firms are more likely to issue management forecasts than smaller firms [Imhoff (1978), Cox (1985), Kasznik and Lev (1995) and Supattarakul (2003)].

4.1 How do Thai listed companies disclose their management forecasts?

Most prior studies of management forecasts are limited to US firms. This study explores management forecast disclosure practices in Thailand. Specifically, we explore management forecast disclosure practice by addressing the following questions: (1) how many firms issue management forecasts?; (2) how frequently do they issue their forecasts?; (3) when do they issue their forecasts (e.g., before or after the end of an accounting period)?; (4) in what horizon do they employ for their forecasts (e.g., quarterly or annual forecasts)?; (5) what type of information is disclosed (e.g., revenue or earnings forecasts)?; and (6) in what form do they issue their forecasts (e.g., quantitative or qualitative forms)?. Answers to these questions provide empirical evidence of management forecast disclosure practice in Thailand.

Results in table 3 suggest that 68% of Thai listed companies voluntarily issue their management forecasts to the public at least once during our sample periods. On average, each firm issues approximately 8.46 forecasts per year. However, most firms issue only one forecast

per year during the sample periods. Results also suggest that firms in the property and construction (93%), resources (88%), and technology (86%) sectors have the highest tendency to release management forecasts while firms in the non-performing group (25%) have the lowest tendency to release management forecasts. A plausible explanation is that most of firms in property and construction, resources, and technology industries are in SET50 (i.e., firms in top fifty ranking which have high market capitalization) and have a large analyst following. These firms may maintain a good relationship with analysts and investors by providing more information via their management forecasts [Skinner (1994), Supattarakul (2003), and Chen (2003)].

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Results in table 4 reveal a majority of forecast firms in our sample issue one to fifteen management forecasts during the sample period. Specifically, 39% of forecast firms issue one to five management forecasts, 26% of forecast firms issue five to ten management forecasts, and 21% of forecast firms issue ten to fifteen management forecasts. On average, forecast firms disclose approximately 8-9 forecasts per year.

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Since management forecasts are provided before earnings announcement dates, management may decide to issue a forecast before or after the end of accounting period. Table 5 presents results on forecast timing (e.g., before or after the end of an accounting period). Since financial statements are prepared for quarterly and annual period, we additionally disaggregate forecast timing by forecast horizon (e.g., quarterly or annual forecasts). The results indicate that most management forecasts (69%) are disclosed before the end of accounting period, rather than after the end of accounting period. Specifically, 3,105

management forecasts (69%) are issued before the end of accounting period while 1,378 management forecasts (31%) are issued after the end of accounting period. Of 2,373 quarterly management forecasts, 1,333 management forecasts (56%) are issued before the end of accounting period while 1,040 management forecasts (44%) are issued after the end of accounting period. Of 2,110 annual management forecast, 1,772 management forecasts (84%) are issued before the end of accounting period while only 338 management forecasts (16%) are issued after the end of accounting period. Results also suggest that firms are more likely to issue annual forecasts than quarterly forecasts prior to the end of accounting period while firms are more likely to issue quarterly forecasts than annual forecasts after the end of accounting period. A plausible explanation is that the SET does not encourage firms to release short term management forecasts. Therefore, most of management forecasts are issued before end of accounting period, rather than after end of accounting period. We also document that forecast firms issuing quarterly forecasts prior to (after) the end of accounting period, on average, issue their forecasts 6 weeks prior to (3 weeks after) the end of accounting period, and that forecast firms issuing annual forecasts prior to (after) the end of accounting period, on average, issue their forecasts 6 months prior to (one month after) the end of accounting period. Since quarterly financial statements are announced more frequent than annual financial statements and submission date of quarterly financial statements dues before that of annual financial statement, number of days of quarterly management forecasts is shorter than that of annual management forecasts.

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According to forecast horizon (e.g., quarterly or annual forecasts), management may provide forecast for quarter (i.e., stand-alone quarterly management forecast), annual (i.e., stand-alone annual management forecast), or both of quarter and annual (i.e., concurrent management forecast) in such disclosure. For stand-alone quarterly (annual) management

forecast, management may provide forecast for a given quarter (year) (i.e., single period management forecast), or for multiple quarter (year) (i.e., multiple period management forecast). For concurrent management forecast, management simultaneously provides a set of quarter and annual management forecasts in such disclosure.

Table 6 shows the distribution of management forecasts by forecast horizon and forecast item. Of 4,483 management forecasts, 423 forecasts (10%) are stand-alone quarterly forecasts, 2,089 forecasts (46%) are stand-alone annual forecasts, and 1,971 forecasts (44%) are concurrent quarterly and annual forecasts.[361] Proportion of stand-alone quarterly forecasts is the lowest since The SET does not allow firms to provide quarterly forecasts. Of 423 stand-alone quarterly forecasts, 359 forecasts (85%) are those revealing information for a given quarter; 58 forecasts (14%) are those revealing information for two quarters; 5 forecasts and one forecast are those revealing information for three and four quarters, respectively. For stand-alone annual forecasts, of 2,089 forecasts, 1,460 forecasts (70%) are those revealing information for a given year; 622 forecasts (29%) are those revealing information for two years; and 7 forecasts are those revealing information for three years. Finally, for concurrent quarterly and annual forecasts, of 1,971 forecasts, 1,312 forecasts (67%) are those revealing information related to one quarter and one year; 340 forecasts (17%) are those revealing information for one quarter and two years; and 242 forecasts (12%) are those revealing information related to two quarters and one year.

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Insert Table 6 here.
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Management might provide forecasts that vary in level of disaggregation of accounting items, ranging from revenue to earnings numbers. Results in table 6 also suggest that stand-

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[361] Stand-alone quarterly forecasts are forecasts which are provided only for quarter period (e.g., one quarter, two quarters, and etc.). Stand-alone annual forecasts are forecasts which are provide only for annual period (e.g., one year, two years, and etc.). Concurrent forecasts are forecasts which are simultaneously provided for both quarter and annual periods.

alone quarterly (annual) forecasts are more likely to be forecasts of earnings (revenues); quarterly forecasts issued simultaneously with annual forecasts are more likely to be forecasts of revenues and annual forecasts issued simultaneously with quarterly forecasts are more likely to be forecasts of revenues as well. Specifically, of 494 stand-alone quarterly forecasts (2,725 stand-alone annual forecasts), 46% (10%) of them are provided only earnings forecasts, 32% (71) of them are provided only revenue forecasts, and 22% (19%) of them are provided both revenue and earnings forecasts. Of 2,327 concurrent quarterly (annual), 53% (71%) of them are provided only revenue forecasts, 31% (9%) of them provided only earnings forecasts, and 16% (20%) of them provided both revenue and earnings forecasts. Overall, over than half of forecasts, regardless forecast horizon, are more likely to be forecasts of revenue.[362] A plausible explanation is that the SET does not encourage firms to voluntarily reveal earnings forecasts.

Management can provide its forecasts in various forms such as point estimates, range estimates, open-ended, or qualitative forecasts. Prior studies mostly focus on point and range forecasts since it is easier to measure forecast accuracy [Lev and Penman (1990) and Rogers and Stocken (2005)], while there is no explicit approach to measure forecast accuracy for open-ended and qualitative forecasts [Hirst et. al. (2006)].

In this study, we classify forecast form into three categories: quantitative, qualitative, and sales volume. Quantitative group consists of four forms: point, range, open-end, and semi-numeric.[363] Results in panel A of table 7 suggest that quarterly revenues forecasts are more likely to be in the semi-numeric and qualitative forms while annual revenues forecasts are more likely to be point estimates and semi-numeric forecasts.

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[362] 64% (18%) of total management forecasts are provided only revenue forecasts (both revenue and earnings) while 18% of them are provided only earnings forecasts.
[363] For semi-numeric form, management provides performance trend for a given period by referring to performance figures of last period.

Results in panel B.1 of table 7 suggest that firms are more likely to issue quarterly earnings forecasts in the qualitative and semi-numeric forms.   Moreover, results for annual earnings forecasts are consistent with those for quarterly earnings forecasts. Additionally, point estimates are another form of forecasts frequently used for annual earnings forecasts as well. Taken together, the results of forecast form for revenue and earnings management forecasts show that most of annual revenue and earnings forecasts are provided in more explicit form (i.e., semi-numeric to point estimate) while quarterly revenue and earnings forecasts are provided in less explicit form (i.e., semi-numeric to qualitative form). According to the disclosure guidelines, the SET does not allow firms to provide quarterly management forecasts. However, if firms need to disclose quarterly management forecasts, firm can issue forecasts in non-financial form. Therefore, most of quarterly revenue and earnings forecasts are in less numeric form.

In addition to exploring forecast forms used for earnings forecasts, this study also looks at information disclosed through earnings forecasts. Panel B.2 of table 7 shows results on information disclosed through earnings forecasts. Of 2,899 total earnings forecasts, most of them, 2,388 forecasts (81%), are net income forecasts. Results suggest that firms are more likely to disclose "net income" in quarterly earnings forecasts and they are more likely to disclose "net income" and "gross profit margin" in annual earnings forecasts. Of 1,431 quarterly earnings forecasts, 1,372 forecasts (96%) contain net income number; of 1,468 annual earnings forecasts, 966 forecasts (66%) contain net income number and 356 forecasts (24%) are gross profit margin. Since earnings number is a summary figure which represents overall firm performance, it is interested for investors in their decision making. Therefore, firms are more likely to provide net income in both quarterly and annual earnings forecasts.

4.2 Are management forecasts informative?

In addition to exploring management forecast disclosure practices, this study also investigates the information content of management forecasts by examining the market reaction

to management forecasts when they are released. The market reaction can be measured by absolute cumulative market-adjusted abnormal returns (ACAR) around management forecast release date.

Table 8 provides a reconciliation of the sample data and reports the sequential filters applied to obtain the final observation. From the 4,483 management forecasts obtained from the NEWSCENTER database, we remove 2,028 forecasts which have other events in 14 days surrounding management forecast release date. Next, we remove 91 forecasts which have unavailable stock returns in the DATASTREAM database. Finally, we obtain 2,364 management forecast disclosures from 260 firms.

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Consistent with prior study which found that management forecast disclosures provide useful information for capital markets, results of total management forecasts on three-day (-1,+1), five-day (-2,+2), and seven-day (-3,+3) windows centered on management forecast date reported in table 9 reveal the significant market reaction to management forecast disclosures surrounding management forecast release date. Specifically, ACAR in all three windows are significantly positive in the sample period.[364]

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According to the distribution of management forecast disclosures in section 4.1, we find that firms in property and construction, resources, and technology industries are more likely to provide management forecasts than others. Most of firms in these industries are large firms (i.e., have high market capitalization). Prior study suggests that market differently react to accounting

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[364] We also employ the market-model abnormal returns using a 100-day estimation period (from day t-107 to day t-8) for beta estimation. Results (not reported) are qualitatively identical.

numbers of firm depend on its size [Freeman (1987)]. We find that forecast firms are more likely to disclose management forecasts prior end of accounting period than after end of accounting period. Prior study documents that timing of forecasts affect information content of management forecasts [Anilowski et. al. (2007)]. Additionally, we also find that half of management forecast disclosures are annual management forecasts. Pownall et. al. (1993) indicates that quarterly management forecasts are more informative than annual management forecast. Therefore, we provide additional test to examine whether industries the forecast firms are in, forecast timing, and forecast horizon affect informativeness of management forecasts.

To do so, we partition our samples by forecast firm industry, forecast timing (e.g., before or after the end of an accounting period), and forecast horizon (e.g., quarterly or annual forecast). For forecast firm industry, empirical evidences in table 9 show significantly positive ACAR for all three windows. Therefore, management forecasts of all firm industries are informative.[365] To assess forecast timing, we classify management forecasts into two groups: forecasts which are issued before and after end of period. The results in Table 9 shows that the timing of forecast is not affected to information content of management forecasts. We also observe significantly positive market reaction in all three windows. Therefore, timing of forecast is not matter since management forecasts which are disclosed before or after end of period are also informative.[366]

Finally, we investigate forecast horizons by dividing management forecasts into three groups. Forecasts in the first group are stand-alone quarterly forecasts. Forecasts in the second group are stand-alone annual forecasts. Forecast in the last group are concurrent quarterly and annual forecasts. Again, we also find significantly positive ACAR in all three windows.[367]

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[365] Unreported results indicate that ACARs of all firm industries are insignificantly different.
[366] Unreported results show insignificant difference in ACAR between forecasts issued before and after end of period.
[367] Unreported findings show that information content among forecast horizons is insignificantly different.

5. Conclusion and Contributions

This study aims at providing empirical evidence on management forecast disclosures in Thailand as well as information content of management forecast disclosures. We hand-collect 4,483 management forecast disclosures of listed companies issued during 12-month period starting January 2005 and 12-month period starting July 2006. Our results show that almost 70% of Thai lasted firms voluntarily disclose their forecasts at least once during our sample periods and on average, each forecast firm issues 8-9 forecasts each year. Firms in property and construction, resources, and technology sectors are more likely to issue management forecasts than are other firms. Specifically, on average, each forecast firm in these sectors issues 10-12 forecasts each year. A plausible explanation is that most of these firms have a large number of analysts following and therefore they maintain their reputation by voluntarily issuing management forecasts.

This study also examines how early forecast firms issue their forecasts The results show that most of quarterly and annual management forecasts are issued before end of accounting period rather than after end of accounting period. As expectation, since the SET does not encourage firms to disclose short term information, firms are more likely to issue management forecast before end of accounting period than after end of accounting period. Forecast firms issuing quarterly forecasts prior to (after) the end of accounting period, on average, issue their forecasts 6 weeks prior to (3 weeks after) the end of accounting period, and that forecast firms issuing annual forecasts prior to (after) the end of accounting period, on average, issue their forecasts 6 months prior to (one month after) the end of accounting period. Obviously, number of days of quarterly forecasts is shorter than annual forecasts, regardless timing of forecast (e.g., before or after end of accounting period).

Additionally, this study investigates forecast horizons and forecast items forecast firms choose for their forecasts and documents that forecast firms are more likely to issue stand-alone annual forecasts and concurrent quarterly with annual forecasts than stand-alone quarterly

forecasts. Since the SET allows firms to disclose only annual forecasts, firms are less likely to provide stand-alone quarterly forecasts. As for forecast items, this study documents that annual forecasts (both stand-alone annual and concurrent annual forecasts) are more likely to be revenue forecasts; stand-alone quarterly forecasts are more likely to be earnings forecasts while concurrent quarterly forecasts are more likely to be revenue forecasts. However, overall distribution show that most of management forecast, regardless forecast horizon, are more likely to be revenue forecasts. The reason is because the SET does not permit firms to disclose earnings forecasts.

Moreover, this study examines forecast forms forecast firms choose for their forecasts and finds that quarterly revenue and earnings forecasts are more likely to be in the qualitative and semi-numeric forms; annual revenue forecasts are more likely to be point estimates and in semi-numeric form while annual earnings forecasts are more likely to be in the qualitative form. According to the disclosure guidelines mandated by the SET, firms do not provide quarterly forecasts.   Compared to annual management forecasts, therefore, quarterly management forecasts, regardless forecast item, are in less precise form. This study also documents that most of earnings forecasts, both quarterly and annual, reveal net income figures.

Moreover, this study investigates whether management forecasts of Thai listed firms are informative and documents that absolute cumulative abnormal returns around management forecast dates are significantly positive, suggesting that management forecast disclosures are informative. Results are consistent with prior studies on information content of management forecasts of US firms. Additionally, the information content of management forecast is not affected by industry forecast firms are in, forecast timing, and forecast horizon.

The study is the first study that provides empirical evidence on management forecast practices and the usefulness of management forecasts in Thailand. Our results provide contributions to financial analysts and investors, management, and the Stock Exchange of Thailand.

The findings in this study directly contribute to the SET. The empirical evidence on management forecast disclosure practices reveals that firms have many alternatives on forecast characteristics to disclose their forecasts. This is beneficial to the SET in issuing its future policy.

Finally, this study provides a contribution to the academic literature, specifically to accounting research in Thailand. The findings in this study present management forecast practices and the informativeness of management forecasts in Thailand and therefore the findings will assist accounting researchers in investigating other aspects of accounting research on management forecast disclosures.

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Table 1
Reconciliation of Sample Data for Descriptive Statistics

	Management forecasts	Forecast Firms
Management forecast obtained from NEWSCENTER Database	4,483	287
Less Management forecasts issued more than one disclosure in each quarter	(3,115)	
Total firm-quarters	1,368	
Less Missing returns data	(98)	
	1,270	
Less Missing earnings data	(79)	
	1,191	263

Table 2
Sample Descriptive Statistics

	UE	SD_NI	SD_RET	MV
All Firms				
Mean	-10.423	125,783.710	0.879	10,545.020
Std. Deviation	811.839	449,216.437	31.121	43,855.961
Maximum	10,460.747	8,108,700.932	1,152.383	676,933.400
75%	16.807	67,622.486	0.030	5,061.920
50% (Median)	0.136	25,920.618	0.021	1,680.000
25%	-20.546	10,677.900	0.014	646.000
Minimum	-37,952.118	197.283	0.000	7.790
N	2,663	2,663	2,663	2,663
Forecast Firms				
Mean	0.294	209,926.254	1.936	18,932.133
Std. Deviation	225.649	636,496.578	46.507	61,586.677
Maximum	5,845.109	8,108,700.932	1,152.383	676,933.400
75%	20.888	115,451.363	0.030	10,435.590
50% (Median)	0.714	38,552.542	0.022	3,206.000
25%	-21.544	16,002.498	0.016	1,110.000
Minimum	-1,314.783	197.283	0.000	61.300
N	1,191	1,191	1,191	1,191
Non-forecast Firms				
Mean	-13.140	63,147.861	0.023	3,745.151
Std. Deviation	1,171.214	224,401.427	0.015	17,507.702
Maximum	16,350.543	5,079,855.116	0.115	483,923.400
75%	13.006	44,934.485	0.030	2,859.805
50% (Median)	-0.729	18,034.518	0.020	1,052.940
25%	-20.322	7,926.425	0.013	459.720
Minimum	-37,952.118	643.485	0.000	7.790
N	1,472	1,472	1,472	1,472

UE is price-deflated unexpected earnings, SD_RET is the standard deviation of returns, SD_NI is the standard deviation of reported earnings, and MV is market value or market capitalization (in million baht). For descriptive purpose, we report statistics on the actual, rather than a log of market capitalization. For the remaining tables, we use a log of market capitalization.

Table 3
Number of Management Forecasts and Number of Forecast Firms
(Sample Periods: January 2005 – December 2005 and July 2006 – June 2007)

Industry	No. of management forecast disclosures	No. of forecast firms	Total firms in the SET	% of forecast firms	Average number of forecast per firm per year			
					Mean	Median	Mode	S.D.
Property & Construction	1,611	80 (28%)	86	93%	10.45	9.25	2.00	6.73
Industrials	806	53 (18%)	77	69%	8.50	7.50	1.00	6.49
Professional Services	666	58 (20%)	85	68%	6.41	6.00	2.00	4.82
Technology	547	32 (11%)	37	86%	9.36	7.75	4.00	6.24
Resources	454	21 (7%)	24	88%	12.26	11.50	7.50	5.86
Agro&Food	270	26 (9%)	47	55%	5.62	2.00	1.00	7.41
Consumer Products	89	12 (4%)	43	28%	4.38	4.50	1.00	3.43
Non-Performing Group	40	5 (2%)	20	25%	2.90	3.00	3.00	0.74
Total	4,483	287 (100%)	419	68%	8.46	7.50	1.00	6.46

Table 4
Frequency of Management Forecast Disclosures
(Sample Periods: January 2005 – December 2005 and July 2006 – June 2007)

No. of management forecast disclosures	No. of forecast firms
<5	111 (39%)
5-10	74 (26%)
11-15	60 (21%)
16-20	25 (9%)
21-25	11 (4%)
26-30	6 (2%)
Total	287 (100%)
Average (times)	8.46

Table 5
Timing for Management Forecast Disclosures
(Sample Periods: January 2005 – December 2005 and July 2006 – June 2007)

No. of days	Before end of period			After end of period			Total
	Quarterly Forecast	Annual Forecast	Total	Quarterly Forecast	Annual Forecast	Total	
0-15	342	111	453	323	80	403	856
16-30	305	97	402	392	109	501	903
31-45	313	103	416	325	95	404	820
46-60	108	72	180	-	52	68	248
61-75	24	55	79	-	1	1	80
76-90	33	76	109	-	1	1	110
91-105	38	97	135	-	-	-	135
106-120	63	99	162	-	-	-	162
121-135	51	101	152	-	-	-	152
136-150	27	52	79	-	-	-	79
151-165	7	55	62	-	-	-	62
166-180	7	59	66	-	-	-	66
>180	15	795	810	-	-	-	810
Total	1,333	1,772	3,105	1,040	338	1,378	4,483
Average (days)	44.02	169.69		22.98	28.23		

Table 6
Management Forecast Horizons and Management Forecast Items
(Sample Periods: January 2005 – December 2005 and July 2006 – June 2007)

Forecast Horizon	No. of MF disclosures	No. of forecast period		Forecast item of quarterly forecast				Forecast item of annual forecast			
		Quarter	Annual	Revenue	Earnings	Revenue and Earnings	Total	Revenue	Earnings	Revenue and Earnings	Total
Stand-alone quarterly forecast											
One quarter	359	359	-	107	160	92	359	-	-	-	-
Two quarters	58	116	-	41	60	15	116	-	-	-	-
Three quarters	5	15	-	7	7	1	15	-	-	-	-
Four quarters	1	4	-	1	2	1	4	-	-	-	-
Subtotal (1)	423	494	-	156 (32%)	229 (46%)	109 (22%)	494	-	-	-	-
Stand-alone annual forecast											
One year	1,460	-	1,460	-	-	-	-	993	155	312	1,460
Two years	622	-	1,244	-	-	-	-	914	120	210	1,244
Three years	7	-	21	-	-	-	-	18	2	1	21
Subtotal (2)	2,089	-	2,725	-	-	-	-	1,925 (71%)	277 (10%)	523 (19%)	2,725
Concurrent quarterly and annual forecast											
One quarter and one year	1,312	1,312	1,312	653	405	254	1,312	949	97	266	1,312
One quarter and two years	340	340	680	185	100	55	340	475	78	127	680
Two quarters and one year	242	484	242	264	172	48	484	175	14	53	242
Others	77	191	130	132	44	15	191	97	9	24	130
Subtotal (3)	1,971	2,327	2,364	1,234 (53%)	721 (31%)	372 (16%)	2,327	1,696 (71%)	198 (9%)	470 (20%)	2,364
Total (1)+ (2) + (3)	4,483	2,821	5,089	1,390 (49%)	950 (34%)	481 (17%)	2,821	3,621 (71%)	475 (9%)	993 (20%)	5,089

Table 7
Forecast Forms of Management Revenue and Earnings Forecasts
(Sample Periods: January 2005 – December 2005 and July 2006 – June 2007)

Panel A: Revenue Forecast

Forecast Horizon	Quantitative					Qualitative	Sales Volume	Total
	Point	Range	Open-ended	Semi-numeric	Total			
Quarterly forecast	170 (9%)	39 (2%)	58 (3%)	741 (40%)	1,008 (54%)	818 (44%)	45 (2%)	1,871[a] (100%)
Annual forecast	1,971 (43%)	420 (9%)	342 (7%)	1,090 (24%)	3,823 (83%)	704 (15%)	87 (2%)	4,614[b] (100%)
Total	2,141 (33%)	459 (7%)	400 (6%)	1,831 (28%)	4,831 (74%)	1,522 (24%)	132 (2%)	6,485 (100%)

[a] 1,871 quarterly revenue forecasts consist of 1,390 forecasts which are provided only quarterly revenue forecasts and 481 forecasts which are provided both quarterly revenue and earnings forecasts. Both figures are presented at bottom line in Table 6.
[b] 4,614 annual revenue forecasts consist of 3,621 forecasts which are provided only annual revenue forecasts and 993 forecasts which are provided both annual revenue and earnings forecasts. Both figures are presented at bottom line in Table 6.

Table 7 (Continued)
Forecast Forms of Management Revenue and Earnings Forecasts
(Sample Periods: January 2005 – December 2005 and July 2006 – June 2007)

Panel B.1: Earnings Forecast

Forecast Horizon	Quantitative					Qualitative	Total
	Point	Range	Open-ended	Semi-numeric	Total		
Quarterly forecast	28 (2%)	14 (1%)	11 (1%)	467 (33%)	520 (36%)	911 (64%)	1,431[c] (100%)
Annual forecast	317 (22%)	140 (10%)	78 (12%)	287 (20%)	822 (56%)	646 (44%)	1,468[d] (100%)
Total	345 (12%)	154 (5%)	89 (3%)	754 (26%)	1,342 (46%)	1,557 (54%)	2,899 (100%)

Panel B.2: Earnings Forecast

Forecast Horizon	NI	%NI	GM	%GM	EBITDA	%EBITDA	Total
Quarterly forecast	1,372 (96%)	13 (1%)	2 (0.5%)	39 (2%)	5 (0.5%)	- (0%)	1,431[c] (100%)
Annual forecast	966 (66%)	111 (7%)	5 (0.5%)	356 (24%)	28 (2%)	2 (0.5%)	1,468[d] (100%)
Total	2,338 (81%)	124 (4%)	7 (0.5%)	395 (13%)	33 (1%)	2 (0.5%)	2,899 (100%)

[c] 1,431 quarterly earnings forecasts consist of 950 forecasts which are provided only quarterly earnings forecasts and 481 forecasts which are provided both quarterly earnings and revenue forecasts. Both figures are presented at bottom line in Table 6.
[d] 1,468 annual earnings forecasts consist of 475 forecast which are provided only annual earnings forecasts and 993 forecasts which are provided both annual earnings and revenue forecasts. Both figures are presented at bottom line in Table 6.

Table 8
Reconciliation of Sample Data for Test of Information Content

	Management forecasts	Firms
Management forecast obtained from NEWSCENTER Database	4,483	287
<u>Less</u> Observations which have other events within 14 days surrounding management forecast date	(2,028)	
	2,455	266
<u>Less</u> Missing DataStream daily returns	(91)	
Final Sample	<u>2,364</u>	260

Table 9
Market Reaction to Management Forecast Disclosure

Distribution of MF Disclosures	No. of Disclosures	ACAR[a] (-1,+1)	(-2,+2)	(-3,+3)
Total Sample	2,364	0.043***	0.056***	0.064***
Industry				
Agro & Food	145	0.027***	0.036***	0.042***
Consumer Products	45	0.027***	0.040***	0.051***
Industrials	429	0.033***	0.052***	0.059***
Property & Construction	871	0.064***	0.071***	0.083***
Resources	225	0.027***	0.035***	0.039***
Professional Services	364	0.030***	0.052***	0.058***
Technology	285	0.032***	0.047***	0.053***
Total	2,364			
Forecast Timing[b]				
Before End of Period	1,636	0.035***	0.043***	0.053***
After End of Period	728	0.061***	0.084***	0.087***
Total	2,364			
Forecast Horizon[c]				
Stand-alone Quarterly Forecast	225	0.030***	0.036***	0.048***
Stand-alone Annual Forecast	1,054	0.038***	0.052***	0.061***
Concurrent Annual-Quarter Forecast	1,085	0.050***	0.064***	0.070***
Total	2,364			

*** Statistically significant at two-tailed 0.01 level.
[a] Absolute Cumulative Abnormal Returns (ACAR) is computed by compounding abnormal returns on selected windows and then taking the absolute term on cumulative abnormal returns.
[b] We classify forecast timing into two groups. The first group consists of management forecasts which are provided before end of accounting period while the second group consists of management forecasts which are provided after end of accounting period.
[c] We classify forecast horizon into three groups. The first group consists of management forecast disclosures which are provided stand-alone quarterly forecasts. The second group consists of management forecast disclosures which are provided stand-alone annual forecasts. The final group consists of management forecast disclosures which are concurrently provided both quarterly and annual forecasts.

IS AN EVENT RESPONDED BY INVESTORS AS A NON-EVENT? INQUISITIVE EVIDENCES WHEN DIFFERENTIATED BETWEEN FOREIGN AND DOMESTIC INVESTORS' REACTIONS

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Abstract

This research investigates that merger and acquisition (M&A) announcements are able to stimulate abnormal return, rank of excess return and abnormal trading volume. Based on efficient market hypothesis and microstructure theory, it is predicted that price or return and trading volume will react to the M&A announcements. In this study, the market reactions are further examined for each type of investors: domestic and foreign. More specifically, the price movements of each of these two types of investors are analyzed thoroughly to explore if domestic investors have superior access to information than the foreign investors.

This study finds that market do not react to the M&A announcement. It means that M&A news does not lead to positive abnormal return, rank of excess return and abnormal trading volume. This may suggest that M&A announcement has no information contents. Consequently, it also has no value relevance. It is argued that M&A announcements may have been fully anticipated by investors before it is made public (announced). Therefore, this study suggests that an information leakage exists in It is further argued that information leakage exists in Indonesia Stock Exchange (IDX) whenever M&A news announced. Finally, this study concludes that the information leakages are dominantly carried out by domestic investors as actors of insider trading.

Keywords: *event study, domestic and foreign investors, abnormal return, rank of excess return, abnormal trading volume, information leakage, information contents, value relevance, insider trading*

JEL Classification: G-11, G-14, M-41

1. Introduction
Objective and Motivation of the Paper
This study attempts to examine the extent to which investors react to the news issued by firms in the Indonesian Capital Market. It is argued that the market may not perceive news issued by companies has information content. Fama (1978, 1991) argues that if investors believe that the news issued by firms conveys new information, then stock prices should immediately adjust to the new information. Alternatively, the market may not react to the news issued by firms. The debate about whether or not investors react to new information issued by companies is still going on; and the empirical evidence does not conclusively support the thesis that investors react to the new information, especially when the investors are classified as domestic and international. As Dvorak (2005) argues, foreignor domestic investors tend to destabilize the market to exploit short-run returns.

It is posited in this study that stock prices will not adjust to new information issued by companies. Investors do not consider such information reflects important events for three main reasons. First, the market is not efficient (i.e., efficient in the weak form) which suggests that stock prices are not associated with firms' values (Bhattacharya et al., 2000). Second, there is a possibility that the new information does not stimulate investors to react. Third, even if the market is efficient, the new information may have been anticipated by the market long before it is announced (Huberman & Schwert, 1985). To test the hypotheses, this study uses market volatility, volume of trade, and bid-ask spread to capture the market reactions.

The sample is taken from *Indonesia Stock Exchange (IDX).* As an emerging capital market, foreign investors may not expect to generate substantial returns from the Indonesian Stock Exchange. This is because foreign investors develop their portfolio in integrated (Bhattacharya, et al., 2000). Furthermore, in emerging markets, there may be unequal access of information among investors: domestic investors have superior access of information than foreign investors, which then drives the price changes. To examine this differential access of information, we use intraday data to identify whether investors are domestic or foreign. This is is because records about foreign and domestic investors are not systematically available at the IDX.

The type of *firm-specific announcements* investigated in this study is M&A announcements. Examining price changes associated with type of announcements (instead of only one firm-specific announcement) allow us to expand the sample and detect variety of announcements (Skinner & Sloan, 2002; Lopez & Rees, 2001). In other words, the findings will be robust across types of announcements. It also allows us to make inference about the characteristics of an emerging market, the Indonesia Stock Exchange, specifically about the extent to which foreign investors perceive that it offers less attractive returns than matured markets. To do this, we compare the market reactions of domestic investors. This comparison also enables us to test whether domestic investors over-react to announcements which will be reflected in the increase in the volatility of returns.

This study contributes to the literature in two ways. First, it examines the market reactions in terms of abnormal returns, volatility of returns, and bid-ask spreads. Second, it provides empirical evidence about the extent to which domestic investors possess superior access to information (relative to its foreign counterpart). This superiority enable them to react faster (capitalize on the opportunity), and make a fortune (at the expense of the foreign investors). In other words, domestic inverstors are more knowledgeable with alternative information sources and channels in IDX than foreign investors; they are able to get new information before it is officially released by companies, which enables them to react to the information earlier than the foreign investors. To some extent, the action of the domestic investors may be considered as

'insider-trading.' The early response of the domestic investors will be followed by all of the investors in the next period. This suggests that the event date (or event window) does not capture the market reactions properly.

The remaining of this study is organized in following order; Section 2 discusses the literature study and hypotheses development. Section 3 discusses the research methods used to examine all hypotheses. Section 4 discusses the research results and findings. The last Section 5 discusses the conclusion derived from analysis results and research findings.

2. Literature Study and Hypotheses Development
Announcements and Return

According to Foster (1986), there are three factors that determine if announcements have information content. First, the expectation of the market about the content of the information and the timing of the announcement. One of the important factors that determines the expectation of the market is the availability of competing sources of information. Investors are very uncertain about the content and timing of any information issued by companies. The higher the uncertainty, the more likely the prices of stocks will be adjusted. Second, the effect of the new information issued on the distribution of return in the future. The higher the expected revision of the firms' cash flows, the largers will be the revaluation of the stock prices associated with the new information. Third, the credibility of the information sources. The more credible the sources, the larger will be the revision of the stock prices.

Dontoh & Ronen (1993) define *information content* in terms of reaction on volume, prices, and expected belief dispersion, decrease in the dispersion on the individuals' conclusions about public disclosures, and increase in accuracy or precision of disclosures. This definition is supported by Pritami & Singal (2001) who argue that announcement of new information is associated with larger abnormal returns. When the information is consistent with the analysts' recommendation, the abnormal returns during 20 days is 3% to 4% larger for positive events, and -2.25% for negative events.

Ball & Brown (1968) examined the influence of the change of information content of earnings to investors' behavior at the New York Stock Exchange using a sample of 261 companies during 1946-1966. The investors' behavior is approximated by the level of the stock abnormal return. The investors' behavior is classified as positive change (positive news) and negative change (bad news). The results of their research show that there are close correlations between earnings change and cash flow with abnormal return. The companies with earnings increase (decrease) are followed by the stock price increase (decrease). After the annual financial statement published, the stock price index returns to flat from the zero month until the sixth month, that means the stock price has completely reacted against the whole earnings information, so that it is no longer reliable as a prosperous trading basics. This research is succeeded to discover evidences that there is a strong relationship between the earnings announcements and the stock market reaction.

Beaver (1968) examined the effect of earnings announcements on the volume of trading and the stock price movement using a sample of 143 companies during 1961-1965. It is found that earnings announcements are associated with trading volumes. Based on the findings, Beaver concludes that: (1) the investors sell or buy stock to optimize the earnings incomes and earnings expenses trade-off; (2) the investors buy or sell stock to maintain on a porftolio basis; (3) the investors buy or sell because (a) there are changes in their portofolio risk, or (b) the companies are within their prefered risk; (4) the investors buy or sell to minimize their taxes; (5) the investors buy or sell because there is new information that make them revise their judgement

about the possibility of return distribution. In his research, Beaver (1968) discovered that there is a dramatic increase in the trading volume and the variability of stock return during the week of earnings announcements. The variability of stock return is 67% higher during the day or the week of earnings announcements than non earnings announcements.

Watt (1978) examined using quarterly financial statements. He concluded that information contents of quarterly financial statements could be captured more perfectly by the market than annual financial statements. His research results show that there is abnormal return after quarterly earnings announcements showing weak market form. Foster (1977) also studies the interim and annual earnings announcements, and then shows abnormal return variance for two days since the earnings had been announced.

Morse (1981) investigates the price and trading volume volatility during a few days around quarterly and annual earnings announcements at Wall Street Journal (WSJ). The sample used in this research includes daily volume data and daily stock price during four years of 1973-1976 for the stock traded at NYSE (20 stocks) and ASE (5 stocks), and the stock traded at OTC. The results show that price volatility and trading volume increase before and during earnings announcements date at Wall Street Journal. The activity before the announcements date at WSJ may occur because the public announcements are misjudged. They are actually announced using broad tape on the day before WSJ issued.

Similar to earnings announcements, the M&A announcements can influence the stock price, either acquirer firm or target firm. The stock price variability of both firms reflects the stockholders' wealth level acquired from M&A announcements. The stockholders' wealth level is measured by abnormal return acquired by acquirer firm and target firm. Parkinson & Dobbins (1993) showed positive and significant abnormal return during 24 hour periods after bid announcements. The stock price of the target firm increases during acquisition announcements and acquisition process, meanwhile the investors of target and acquisitor firm gain high returns. Therefore, it could be concluded that stockholders' wealth increases by merger. Limmack (1991) studied the merger consequences to the investors' wealth level by examining the gains distribution to merger firms' investors. The results show that, even there are no totally decrease of their investors' wealth as a result of company acquisition, the acquirer firm could experiences a decrease in their investors' wealth level. Inversely, the wealth of target firms' investors could increase significantly.

Ghosh & Lee (2000) argued that abnormal return is correlated to target firms' performance which serve as underlying acquisition motives. The results finds high abnormal return for the target firm. Leeth & Borg (2000) suggests that target firms' investors during 1920s gained abnormal return from this acquisition more than 15%. Song & Walkling (2000) examined the merger effort sign which influence the non target firms in the same industry as the new target firm. The examination results shows that non target merger and acquirer firms get abnormal return around M&A announcements. Even though, abnormal return of non target firms are less than target firm. This is caused by the possibility that nontarget firms would become the next acquisition target.

Harris & Ravenscraft (1991) studied stockholders' wealth of 1273 firms in USA who do acquisitions since 1970 until 1980. The results show that for firms with intensive industry research and development, cross border acquisitions took place more frequently than domestic acquisitions. This research confirmed that target firms' wealth those are foreign firms are higher compared to the target which are domestic firms. Maquieira, Megginson & Nail (1998) studied 260 mergers which did the merger payment using stock from 1963 until 1990, and finds that merger paid with stock did not produce financial sinergy or stockholders' benefit. Amihud, Lev

& Travlos (1990) examined motivation which become the consideration to control other firms through investment paid by cash, debt or stock. The firm's values are reflected in investment paid using cash, debt, and stock. They documents that firm acquisition whose managerial ownerships are high tend to pay using cash. Additionally, negative abnormal return for the acquirer is related to payment using firms' stock whose managerial ownerships are low. Based on previous research described above, the hypothesis is formulated as follows.

H₁: *The M&A announcements induce positive abnormal return*

Announcements and Return Volatility
The stock price volatility begins with investors' assets re-evaluation. The re-evaluation process is conducted by estimating the expected income and risk to determine stock intrinsic value using most recent data. The result is then compared to the actual price to evaluate the price fairness. Based on this fairness evaluation, the decision to buy or to sell stock is made. There are two sides who have contradictive aim, namely the stock buyer who wants price increase after trading and the stock seller who wants price decrease. This contradictive aim causes stock price volatility. Each time the price has been concluded, then during the same time the balance between stock bid and ask occurs. The level of stock price volatility is comparable to stock intrinsic value fluctuation, and the information acquired by investors affects the stock price re-evaluation. Therefore, the stock price volatility can not be separated from new information acquired by investors. Public announcement is information recognized at the same time as the price is affected, before anyone can use it as trading strategies (French & Roll, 1986).

The public information signal is available for all traders but considered differently by various traders (Odean, 1998). The informed and non-informed investors trade, only when there is new information about future stock cash flow or about other variables such as wealth, preference, and investment opportunity. The investors' reaction against information occurs when information produced price change that reflects the investors' expected risk and benefit (Berry & Howe, 1994). Nofsinger (2001) studied the trading behavior of institutional investors and individual investors after firm specific information released by Wall Street Journal and macro-economics announcements. The investors tend to watch the released firm specific information especially about earnings and dividen. The institutional investors and individual investors buy stock after good economics news and sell them after bad ones. This phenomena show that public information released by Wall Street Journal and macro-economics announcements are greatly influence stock price volatility.

Balduzzi, Elton & Green (2001) signified that the impact of most public informations occur very fast (during 1 minute or less). Frino & Hill (2001) supported this signal. They state that the stock price behavior is greatly affected by public information announcements at Sydney Future Exchange (SFE). Price volatility, trading volume and bid-ask spread analysis indicates that adjustment to new information occurs very fast. The impact of announcements can be detected within 240 seconds. The bid-ask spread impact has shown within 20 seconds before and 30 seconds after public information. The increase of bid-ask spread is closely correlated with price volatility, which indicates market response against public information. Therefore, this research hypothesized as follows.

H₂: *The M&A announcements affects positively the level of return volatility*

The Impact of the Announcements to Trading Volume

The studies examining the relationship of price, trading volume and information are presented in studies by Bamber (1986), Barclay & Litzenberger (1990), Jain & Joh (1988), Morse (1981), and Winsen (1976). These studies found the relationship between trading volume and released information. Every new information is followed by trading volume increase that definitely affect stock prices. The reason is that released information can be either good news or bad news, the price change can be negative or positive, but the trading volume never negative.

The trading volume provides the intensity clue of an occuring stock price variability. The low trading volume is the characteristic of doubtful expectation that typically occurs during consolidation period (the period when the price change side within trading session). The high trading volume occurs when there is strong consensus that prices shift higher. The trading volume is a proxy of information inflows velocity, that affect stock price at the same time. The investors who have information do trading based on their acquired information. The more transaction done, the higher volatility is (Kyle, 1985; Admati & Pflederer, 1988). The investors who have information tend to trade more actively. Therefore stock price volatility rises after information disseminations.

Kyle (1985) explained the private information is formed by the end of trading day during which private information disseminated. The return variance during every interval reflects new information. Admati & Pfleiderer (1988) signified that two important motivations of trading at stock market are information or liquidity. Furthermore, the informed traders do their trading based on information that not every trader has. Whereas the liquidity traders trade without directly related to return on asset level in the future. Including within this category is big traders such as financial institutions, who their trading is conducted by showing the client need or in order to balance their portfolio. After the clasification of the two types of traders, it is shown that both types of traders choose to trade when the market is during thick transactions, that is when their trading has little influence against stock prices.

The concentrated attention to the similarity of stock price and trading volume reactions because of published information tend to make researchers to consider them as the substitute of market reaction measure (Bamber & Cheon, 1995). This is because lots of previous studies found that published information causes stock price and trading volume reactions. Karpoff (1986) stated that even though investors give similar interpretation about public announcement, but trading could occur when investors have different expectation. The different expectation causes stimulation to trade by releasing their speculative shares. Holthausen & Verrecchia (1990) concluded that an announcement that contains information content can change investor's belief, so that the investors do trade. When the different interpretation was constant, new information release is not expected to revise investors' belief. This different interpretation is adequate to motivate the investors to trade. The trading volume is an increasing function of the absolute price change, which is reflected in the information availability (Holthausen & Verrecchia, 1990). The stock trading may occur when the investors have different accuracy against private information. Pre-disclosure information asymmetry causes the investors to develop pre-disclosure beliefs by differentiating the degrees of confidence. The difference occurs within the weight of public announcement causes the different investors' belief revision and finally causes the trade.

Beaver (1968) disclosed that, if correlated with stock trading volume, published financial statements (events) could have information content when the stock number is bigger during earnings announcement compared to the other times during the year. Therefore, it can be concluded that the information content causes the traded stock volume becomes relatively more when an event occurred. This happens if the announcements were bad news. Meanwhile, because

this research is limited to M&An announcements event (good news), then this research hypothesized as follows.

H₃: *The M&A announcements influence abnormal trading volume positively*

Insider Trading

Begin with the study by Ball & Brown (1968) which signified strong support that investors react against earning announcement. The firms' employee, the board of directors and other insiders has more information than public who only has a chance to gain abnormal return based on information released by the firms. Furthermore, the insiders with special access to earnings information have capability to predict expected earnings and finally are able to trade with more trading volume. The special access to earnings enables the insiders to trade based on earnings information (Park, Jang & Loeb, 1993).

Jaffe (1974); Finnerty (1976); Baesel & Stein (1979); Givoly & Palmon (1985); Seyhun (1986); Fowler & Rorke (1988); and Allen & Ramanan (1995) concluded that there is relationship between insider trading and published earnings announcement. The insiders do their trading activity based on information captured earlier about future events, such as merger, earnings, and dividend announcements. The insiders sell (buy) is not a perfect prediction to be considered as good (bad) news (Allen & Ramanan, 1995). Givoly & Palmon (1985) signified that there is a probability of insider trading during their market action to gain excessive return and at the same time, they spread the information about long term prospect of the firm.

If insider trading provided certain information, then there is big probability that the market evaluate the firm condition information disclosure. This prediction has been investigated empirically which signified that the insiders are able to acquire abnormal return when trading and at the same time they spread estimated earnings information (Penman, 1982). The firms' decision to sell stock is considered profitable by the market when the buying by insiders occurs within six months before announcement (Hirschey & Zaima, 1989). The market responds the dividend announcements more negatively when there is selling by the insiders first (John & Lang, 1991). The market reaction against the bankruptcy announcements are more negative for the firm when there is a significant and big proportion of selling by the insiders (Gosnel, et al., 1992). The market responds more positively to buy back stocks when there is buying by the insiders first (Lee, et al., 1992).

The inference concluded from all studies above is that there are information leakage evidences before announcements event. This condition can be considered as insider trading evidence. Insider trading may be conducted by either domestic or foreign investors. This study differentiate the investors types as domestic and foreign investors to determine whether all types of investors or certain type of investors commit insider trading. This condition is confirmed if return variance during the period before announcements event is related positively and in one way with return variance during the following period. Subsequently, the return variance during the following period is related positively and in one way with return variance during the next following period. As a note, the term in one way refers to return variance which influence following return variance, and not vice versa. Therefore, the hypothesis can be formulated as follows.

H₄: *The return variance during preceding window periods is related positively with return variance during the following periods, within consecutive lag, sugesting insider trading*

2. Research Method

This study uses transaction data from the Indonesian Stock Exchange (IDX). The IDX has begun automation since May 1995 using JATS (*Jakarta Automated Trading System*). The transaction data record each transaction at IDX since May 1995. The informations recorded at data are such as time stamp, stock code, transaction number, order number, transaction value, transaction price, buy or sell code, investor's identity (foreign or domestic), stockbroker code, stockbroker's identity (foreign or domestic), and transaction board (for example regular, negotiation). There is no information whether the transaction is done by the institution or individual. The foreign or domestic identity is recorded before economics crises during 1997. Indonesia applied a policy that foreign ownership is limited to 49% of outstanding stocks. This limitation has been abolished during mid 1997. However, foreign or domestic investors' identity recording is still ongoing until recently. To make the study direction clearer, this study uses 45 most liquid stocks at IDX (stocks included within LQ45 index). This sample is selected because foreign investors have greater possibility to trade stock with big capitalization and with high liquidity (Kang & Stultz, 1995).

This research is an event study, which study market reaction against event of which information is published as an announcement. The event study can also be used to examine the information content of announcement and to examine market efficiency form. Furthermore, this study is aimed to examine market reaction between foreign and domestic investors against announcements published by the firms. This reaction is measured by return as the value of stock price change or abnormal return. This research uses market model with estimated window periods of 91 trading days based on stock price observation within 80 days before announcement and 10 days after announcement. The research sample is the firms those did public M&A announcements based on purposive sampling method.

Research sample is stocks listed at IDX and fulfill the following criteria, (1) the sample is all stocks traded during research period, (2) did not apply stock split policy during observation period, (3) did not announce other policies such as right issue, bonus, or other corporate events during window period, and (4) identify transaction which stocks were originally held by foreign and domestic investors. This research uses public company secondary data listed at IDX during 1999-2007. The collected data include transaction data, transaction clearing data, firm type, stock identification, price, trading volume, trading value, time stamp, stockbroker, stockbroker origin, and investors' identity (foreign and domestic).

The analysis methods used are differentiated according to hypotheses examined. Hypotheses H1 and H3 are examined using the following stages (return examination notation P is replaced by TV (trading volume) to calculate abnormal trading volume). First, this research adjusts the return calculated using the following formula $R_{i,t0} = \dfrac{P_t - P_{t-1}}{P_{t-1}}$, where $R_{i,t0}$ is the adjusted stock return day t_0; P_t is stock price day t; P_{t-1} is stock price before day t. Second, determine abnormal return calculated using the market model. The estimated periods used to develop α and β parameters is 120 days. The window period is day -45 until $+45$ with total t equals to 91 days. The market model is used with the formulation $AR_{it} = R_{it} - (\hat{\alpha}_{it} + \hat{\beta}R_{mt})$, where AR_{it} is abnormal return of security i during the event period; R_{it} is actual return of security i during the event period; $\hat{\alpha}_{it} + \hat{\beta}R_{mt}$ is expected return of security i. Third, calculate the mean

abnormal return (MAR) using the formula $MAR_t = \dfrac{1}{N}\sum\limits_{i=1}^{N} AR_{it}$, and calculate the mean cumulative abnormal return (MCAR) using event period with the formula $MCAR_{t\text{-}s,t} = \dfrac{1}{N}\sum\limits_{i=1}^{N}\sum\limits_{q=t-s}^{t} AR_{i,q}$.

Fourth, statistical test (t-test) is conducted to determine the statistical significance of stock price change which has been adjusted to stock split. The standardized mean of abnormal return of security i ($SMAR_i$) is the calculated t-value for security i. The standardization is conducted by dividing the abnormal return value with the standard error of estimation (SEE) which $SMAR_{i,t} = \dfrac{AR_{i,t}}{SEE_i}$. The standard error of estimation (SEE) is calculated using the $SEE_{,t}$ formula which similar with the $SEE_i = \sqrt{1 + \dfrac{1}{T1} + \dfrac{(R_{mt} - \overline{R_m})^2}{\sum\limits_{j=t1}^{t2}(R_{mj} - \overline{R_m})^2}}$ with $SEE_{i,t}$ is standard error of estimation of security i during day t within event periods; SEE_i is standard error of estimation of security i; R_{Mt} is market index return during day t within event period; R_{Mj} is market index return day j during estimation period; $\overline{R_M}$ is mean of market index return during estimation period; and $T1$ is the number of days within estimation period. The next, the value of SEE_i is calculated using the formula $SEE_i = \sqrt{\dfrac{\sum\limits_{j\backslash t1}^{t2}(R_{i,j} - E(R_{i,j}))^2}{T1-2}}$ with SEE_i is standard error of estimation of security i; $R_{i,j}$ is return of security i during day j within estimation period; $E(R_{i,j})$ is estimated return of security i during day j within estimation period; and $T1$ is number of days within estimation period, namely from day t_1 until day t_2.

To examine hypothesis H2, this study uses the absolute value of return compared to observed event. This study hypothesized that the absolute value of return is higher during window event compared to normal period. The examination procedure uses nonparametric mean rank of return (Corrado, 1989; Bhattacharya, et al., 2000). This examination does not use normal distribution assumption, but focus on value rank instead. The examination stages are as follow. First, each stock i is ordered from 91 observation days using the absolute value of residual by descending order. Second, calculate the value of $\mu(K)$ for window event (day t_{-1} until t_{+2}) using $\mu(K) = \dfrac{1}{N}\sum\limits_{i=1}^{N}\left(\sum\limits_{t=-1}^{2}(K_{it} - 45,5)\right)$. Third, calculate the standard deviation $\sigma(K)$ during the 91 days event periods which are -80th day up to +10th day using following formula: $\sigma(K) = \sqrt{\dfrac{4}{91}\sum\limits_{t=-80}^{+10}\left(\dfrac{1}{N}\sum\limits_{i=1}^{N} K_{it} - 45,5\right)^2}$. Fourth, examine the calculated-t against absolute value of residual during the window event which is equal or unequal to the event period. The formulation is $T = \dfrac{\mu(K)}{\sigma(K)}$.

To examine the hypothesis H4 as the clue of information leakage or the indication of insider trading, this study uses the method by Bhaattacaraya, et al. (2000). First, we develop window period lag 1, 2, 3, 4 and 5. Second, this study conducts two regression tests to estimate statistically significant return variance as the clue of information leakage. The tests are

conducted for all lags. The regression equations are $a_t = \beta_{10} + \sum_{i=1}^{n} \beta_{11i} a_{t-i} + \sum_{i=1}^{n} \beta_{12i} b_{t-i}$ and

$b_t = \beta_{20} + \sum_{i=1}^{n} \beta_{21i} a_{t-i} + \sum_{i=1}^{n} \beta_{21i} b_{t-i}$, where a_t is stock return variance sold by domestic investors and b_t is stock return variance sold by foreign investors or inversely during day t with lag period i.

4. Statistical Analysis and Results
Descriptive Statistics
This study employed M&A event data from IDX during 1999–2006. Examination used intraday data collected directly from IDX news. Similarly, M&A announcements are also collected directly from IDX news. The detailed number of M&A announcements is presented in Appendix A. The number of M&A events is 54 times in IDX within the previously mentioned years. However, this research eliminated one sample data due to data incompleteness that is Jakarta Setiabudi International Co. Ltd. Later, this research filtered common stocks only. Research sample was also directed to filter companies who published M&A and still operational at IDX. The third filter select M&A announcements that were actually completed, not just rumors. Based on this filtering process, detailed data about abnormal return and abnormal trading volume are presented details in Table 1.

Using 80 days before and 10 days after M&A announcements, there are 4,605 daily return data for foreign investor analysis, and 4,550 data for domestic investor analysis. Meanwhile, daily trading volume data consists of 4,641 data for both foreign and domestic investor's analysis. It can be concluded that the mean of abnormal return is smaller for domestic investors than foreign investors. The range of abnormal return is from -0.2107 for the lowest point until 0.2537 for the highest point. However, the range of trading volume is wider for domestic investors, which is at -0.3169–0.7491, compared to foreign investors, which is at -0.2124–0.6012. The standard deviation of abnormal return for domestic investors is greater than foreign investors that is 0.0371 for domestic investor and 0.0210 for foreign investors. The standard deviation of abnormal trading volume showed similar result, which the domestic investors is greater than foreign investors. The descriptive statistic result shows initial indication that there is a great probability that reaction of domestic investors is greater (more reactive) than foreign investors.

Insert Table 1 about here

Impact of M&A Announcements to Abnormal Return
This study examined time series return to determine the impact of M&A announcements against abnormal return around the announcements date. The examination method employed in this study is the problem solving method by Bhattacharya et al (2000) and Brown & Warner (1985). The examination is conducted by observing abnormal return behavior around M&A announcements, 80 days before announcement until 10 days after announcement. Before examination using this method, this study observed the behavior of abnormal return by graphical method. The analysis result by graphical method is detailed presented in Picture 1.

This picture signify that the movement of abnormal return for domestic investors is different from the movement of abnormal return for foreign investors. The picture shows that before the M&A announcements, abnormal return for domestic investor's increases at wider range than abnormal return for foreign investors. The picture also shows that abnormal return for

domestic investors rises before foreign investors does. From the magnitude of movement point of view, the foreign investors show more fluctuate movement compared to domestic investors. The movement of domestic investors which is always precede and rises positively to anticipate the M&A announcements shows indication that domestic investors is better informed than foreign investor. Inference derived from this picture is that M&A announcements do not bring informational content to domestic investors, because domestic investors have already reacted before the realization of the M&A. This signifies the information leakage acquired by the domestic investors.

This study continued the description of previous picture by conducting abnormal return examination for day by day around M&A announcements. The examination result using market model is presented in Table 2 as follows. The examination result shows that there are no abnormal return that statistically significant around M&A announcements, for instance during t_0 with t-values (sig.) equal -0.0059 (-1.8966) for domestic investors and equal to -0.0069 (-1.4495) for foreign investors. Similarly, t_1, t_2, and t_n do not show abnormal return that is statistically significant. This results lead to a conclusion that hypothesis H1 is not supported. This conclusion refers to that M&A announcements are no longer reacted by domestic and foreign investors. In other words, M&A announcements does not bring informational contents to the stock market anymore.

This examination result denies or does not in support with the theory that states that M&A announcements brings informational content (Beaver, 1968; Foster, 1977; Parkinson & Dobbins, 1993). Otherwise, this study supports the probability of information leakage that is no longer able to create abnormal return around the announcements (Jaffe, 1974; Finnerty, 1976; Baesel & Stein, 1979; Givoly & Palmon, 1985; Seyhun, 1986; Fowler & Rorke, 1988; and Allen & Ramanan, 1995). This study also signifies the possibility of insider trading during announcements, so that the abnormal return is cancelled.

Insert Picture 1 about here

Insert Table 2 about here

Impact of M&A Announcements to Return Volatility

The result of examination of abnormal return which shows statistically insignificant result is re-examined absolute value of excess return. The employment of this measurement has different essence. The previous examination follows the logic of normal distribution t-test which has positive and negative direction toward abnormal return. This examination does not direct to distributional assumption, but correlates with the rank of observation result (Corrado, 1989; Bhattacharya, et al., 2000). Previously, this study investigates the behavior of the rank of excess return by differentiating the domestic and foreign investors as presented in Picture 2.

Insert Picture 2 about here

This graphical examination shows that there isn't clear difference around M&A announcements. If M&A announcements brought informational contents, then the fluctuation of rank of excess return should occur. However, this examination result does not show that.

Nevertheless, the picture shows that the rank of excess return for domestic investors is greater than foreign investors. This result shows that the reaction of domestic investors is greater than foreign investors. This condition also refers to that domestic investors are better informed and supports the difference of acquired information related to the measure of traders' reaction at IDX stock market (Odean, 1998; Berry & Howe, 1994; Nofsinger, 2001).

The graphical examination is continued with the examination using T (*big-T*) test to compare the mean and standard deviation of research sample during long windows 90 days period (Corrado, 1989; Bhattacharya, et al., 2000) as presented in Table 3. The examination result shows that each type of investor, domestic and foreign investors, does not have the difference of rank of excess returns that statistically significant. Therefore, hypothesis H2 is not supported. Even though the previous result shows that domestic investors are better informed and have higher rank of reaction, both types of investors do not show drifting reaction change around M&A announcements. This study once again supports the indication of the probability of information leakage which no longer able to create higher excess return around the announcements. Therefore, this study signifies and supports the possibility of insider trading during M&A announcements, and result in the inexistence of high rank of excess return (Jaffe, 1974; Finnerty, 1976; Baesel & Stein, 1979; Givoly & Palmon, 1985; Seyhun, 1986; Fowler & Rorke, 1988; and Allen & Ramanan, 1995).

Insert Table 3 about here

Impact of M&A Announcements to Trading Volume
The theory within microstructure formulates that announcements is related to trading volume increase (Bamber, 1986; Bamber & Cheon, 1995; Kyle, 1985; Karpoff, 1997). This subsection discusses the sensitivity test of previous examination using abnormal return and the rank of excess return. The examination of abnormal trading volume uses the concept by Bamber (1986); Bamber & Cheon (1995) and Batthacarya, et al (2000). The logical framework of this examination is that the movement of price and return serves as indicator of aggregate belief revision, while the movement of trading volume serves as indicator of the consequence of aggregate belief revision which has impact to the summing of trading activity. The detailed result of this graphical examination of trading volume movement as a result of M&A announcements is presented in Picture 3 as follows.

The graphical examination shows that the movement of abnormal trading volume during M&A announcements and the following days does not show increasing change. This condition refers to that neither domestic nor foreign investors are reacting after this announcement. However, the movement of abnormal trading volume during one and two days before M&A announcements greatly increases. This indicates that the investor's reaction is preceding the M&A announcements. This means that the investors have revised their belief and make higher aggregate activities to anticipate the M&A announcements.

This graphical examination is then continued with the statistical examination as presented in Table 4. The result shows that hypothesis H3 is partially supported, because it is the only one day before announcements which is more likely incidental for domestic investors. The result shows that domestic investors respond M&A announcements within one day before the announcement. This result is statistically significant with the mean of abnormal trading volume equals to 0.0138 which is significant at level of 1%, whereas foreign investors do not. Foreign

investors react to M&A announcements within two days after the announcement date. This difference shows that domestic investors have more information and trade in higher volume than foreign investors. Similarly, this statistically significant difference shows that information leakage of M&A announcements occurs for domestic investors. This also means that domestic investors more likely tend to have private information than foreign investors. Therefore, this study concludes that there is information leakage probability. It is shown that M&A announcements are no longer able to create abnormal trading volume after announcements and abnormal trading volume before the announcements (Jaffe, 1974; Finnerty, 1976; Baesel & Stein, 1979; Givoly & Palmon, 1985; Seyhun, 1986; Fowler & Rorke, 1988; and Allen & Ramanan, 1995). All those research also signify the possibility of insider trading during M&A announcements, so that abnormal trading volume after M&A news can not exist.

Insert Picture 3 about here

Insert Table 4 about here

The Existence of Insider Trading

Following the discussion of the movement of stock price and trading volume which are actually sensitive to M&A information, this study examined the impact of M&A announcements to determine the possibility of information leakage. The examination result shows that there are no abnormal return and abnormal trading volume that statistically significant. Therefore, this study formulates that there is a possibility of information leakage about M&A announcements. However, one bright side, the possibility of information leakage can be interpreted as a good anticipation by investors against information, so that the market take efficient position or the information of M&A announcements have informational content. However, one bad side, the possibility of information leakage has a consequence that the information does not have informational content which means having no value relevance or actually the information has leak because the information has been anticipated previously.

With the confirmation that there are no abnormal return and abnormal trading volume that is statistically significant (all previous three hypotheses do not proven statistically significant), this study formulates that, in one side, the information leakage is the greatest possibility. If so, there should be insider trading which brings private information previously whenever M&A occurs. In another perspective, the market participants have updated their belief before the announcement. The trading conducted by market participants implied to the stock prices that reflected this information leakage. Thus, M&A announcements had been fully anticipated, and it will not affect return and trading volume.

The prove the presume of information leakage, this study constructs relation-lag of price variance between the day of M&A announcements (t_0) and abnormal return during previous days t_{-n}. Price variance is used to examine the absolute measure of fluctuation within each trading day. If the absolute measure of return variance during the day of M&A announcements was positively associated with the absolute measure of return variance during previous days, then the information has been spillover during the days prior to the announcement or suggests the information leakage. Inversely, if the association was negative, then the market reacts against M&A announcements. Furthermore, the examination stays within the construct that differentiate

between domestic and foreign investors. This aim directs to the determinations of whoever brings the private information to IDX. The examination result is presented in detail in Table 5 as follows.

Insert Table 5 about here

The examination result shows that positive association is proven statistically significant for domestic investors. The examination result shows that domestic investors with association of absolute return variance during the day of M&A announcements with the previous days for lag 1 equals to 2.2955 which is significant at level of 5%, for lag 2 equals to 2.5574 which is significant at level of 5%, for lag 3 equals to 2.6536 which is significant at level of 1%, for lag 4 equals to 2.5036 which is significant at level of 5%, and for lag 5 equals to 2.2274 which is significant at level of 5%. This result refers to that the traders are already aware and able to anticipate the absolute measure of return variance due to M&A announcements. Because the one proven statistically is the domestic investors, then this type of investor's trade based on private information and choose to acquire gains from trading prior to M&A announcements. Therefore, this study also concludes the absence of value relevance of M&A announcements and there is anomaly of efficient market hypothesis because announcements does not reacted by price and return. Thus, hypothesis H4 is supported, which means that this study supports the possibility of insider trading during M&A announcements (Jaffe, 1974; Finnerty, 1976; Baesel & Stein, 1979; Givoly & Palmon, 1985; Seyhun, 1986; Fowler & Rorke, 1988; and Allen & Ramanan, 1995), marked by positive association between absolute return variance within consecutive lags.

5. Findings and Limitations
Stock trading at IDX shows no reaction against M&A announcements. This study found that there is no excessive reaction against M&A announcements, under the measures of abnormal return, rank of excess return volatility and trading volume. This research hypotheses that M&A announcements serve as positive stimuli towards abnormal return, rank of excess returns and abnormal trading volume around the date of announcement did not statistically proven. Therefore, this study formulates a statement that an event is reacted by investors as a non-event. This result indicates that M&A announcements did not give informational content at IDX. Furthermore, the absence of informational content also did not result in value relevance at IDX. The absence of informational content and value relevance may signify that the market is inefficient form or there is an anomaly in efficient market hypothesis at IDX.

With the unproven, this study found that the biggest probability is information leakages about M&A announcements. This information leakage also indicates insider trading at IDX. The examination result gives evidences that domestic investors utilize M&A announcements prior to foreign investors. In another perspective, domestic investors have superior information than foreign investors. Therefore, domestic investors are able to acquire gains from trading earlier before M&A news announced.

This condition gives image that the market does not have good enough integrity for all investors' interest. It is notable that market integrity becomes a problem for emerging market, such as IDX. Unlimited to IDX, the market integrity problem becomes the main focus within trading fairness. If this condition stays unsolved, the market face development problem that may result in discontinuation of nation wide economics development. The reason proposed is that investors give judgment to the market integrity by revising their belief about the sum of stock traded or the sum of fund invested which is only if it can be raised through the stock market.

Information leakage, insider trading and other factors having consequences against market integrity may imply the stock market regulation to regulate all three factors in integrated policy formulation. This policy is aimed to create trading fairness. One of the policies that may be applied is the magnitude of profit allowance for the investors during trading. The market policy only allow thin profit margin. The policy of profit margin allowance is enforced to all of investors, without exception. Because of it is hard to uncover insider trading, other policy may done by applying maximum penalty to the actors of insider trading, such as expulsion.

The accounting information related policy to control insider trading is urgency of disclosure. This urgency may reduce information asymmetry to the investors. The reason that supports the disclosure urgency is the ability to shift from private information to public information. This shift is able to inform announcements to become publicly known to the various types of investors. Further important is the policy that is able to control company information disclosure before the management do business activity, such as M&A.

This study poses limitation that may reduce its conclusion validity. First, the examination is conducted on wide-range window periods which may contain confounding event affecting the magnitude of abnormal return and trading volume. This problem actually may be solved by the employment of intraday data to measure abnormal return, rank of excessive return and abnormal trading volume. Second, the examination used only one event of M&A and one nation, Indonesia. Further examination should be based on nation by nation. Such examination provides comparison of market integrity, to ensure the behavior of investors among various countries. Especially, traders who tend to intelligently anticipate information dissemination. Third, if the market did not react against announcements, the research design model that is widely used to measure abnormal return, rank of excess return and abnormal trading volume in event studies is questionable.

6. Conclusion

This study concludes that there is no either abnormal return, rank of excess return volatility or trading volume as a reaction of M&A announcements. Research hypothesis that states that M&A announcements serve as positive stimuli towards abnormal return, rank of excess returns and abnormal trading volume around the date of announcement did not statistically proven. From the results of all three hypotheses, this study formulates in a statement that an event is reacted by investors as a non-event. This result indicates that M&A announcements do not give informational contents, did not affect value relevance, or the market is inefficient at IDX.

This research also suspects the information leakage. The hypothesis of information leakage is supported as shown by domestic investors. The domestic investors have private information previously and utilize it to trade during the period before M&A announcements. Thus, domestic investors may be suspected that they act as insider trading.

The information leakage and big probability of insider trading by domestic investors, is considered by this study to conclude that IDX market has not good enough integrity when M&A news announced. Consequently, the market integrity should be created by the policy makers to develop trading fairness. New policy can be applied by regulation of narrow profit margin allowance, and the regulation of the urgency of accounting information disclosure so that the information may be publicly known by investors urgently.

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Pictures and Tables

Picture 1 Abnormal Return for Foreign and Domestic Investors

Picture 2 Rank of Return Volatility for Foreign and Domestic Investors

Picture 3 Abnormal Trading Volume for Foreign and Domestic Investors

Table 1 Descriptive Statistics

	Foreign abnormal return	Domestic abnormal return	Foreign abnormal volume	Domestic abnormal volume
N	4605	4550	4641	4641
Means	-0.0003	-0.0004	-0.0007	-0.0006
Std. Dev.	0.0210	0.0371	0.0208	0.0343
Maxs.	0.3306	0.2537	0.6012	0.7491
Mins.	-0.1730	-0.2107	-0.2124	-0.3169
Skewness	1.2992	0.4387	7.6805	8.5742

Table 2 Tests for abnormal return

	t_{-n}	Day (t)				t_{+n}
	...	-1	0	1	2	...
Foreign investors abnormal return		0.0052	-0.0059	-0.0013	-0.0024	
t value		1.6791	-1.8966	-0.4307	-0.7909	
Domestic investors abnormal return		-0.0076	-0.0069	-0.0028	-0.0024	
t value		-1.6107	-1.4495	-0.5850	-0.5051	

Note: *significant at level of 10,00%; **significant al level of 5,00%; ***significant at level of 1,00%. There are no *t value* tests with statistically significant result.

Table 3 Rank test for return volatility

	$\mu(K)$	$\sigma(K)$	T
Foreign investors	-23.6569	17.1327	-1.3808
Domestic investors	8.4020	7.5568	1.1118

Note: *significant at level of 10,00%; **significant al level of 5,00%; ***significant at level of 1,00%. The T test uses Corrado (1989) and Batthacarya et al (2000). There is no *t*-test with statistically significant results.

Table 4 Tests for abnormal trading volume

	t_{-n}	Day (t)				t_{+n}
	...	-1	0	1	2	...
Foreign investors abnormal volume		0.0045	-0.0032	-0.0026	0.0058	
t value		1.5538	-1.1203	-0.8994	2.0033**	
Domestic investors abnormal volume		0.0138	-0.0060	-0.0040	-0.0011	
t value		3.0667***	-1.3222	-0.8880	-0.2336	

Note: *significant at level of 10,00%; **significant al level of 5,00%; ***significant at level of 1,00%.

Table 5 Test for Information Leakages

Dependent variable	Number of lags	Domestic investors		Foreign investors	
		t value	Sig	t value	Sig
Domestic investors	Lag 1	2.5955	0.0111 **	-0.9646	0.3374
Foreign investors	Lag 1	0.4099	0.6829	-0.4936	0.6228
Domestic investors	Lag 2	2.5574	0.0123 **	-0.9584	0.3406
Foreign investors	Lag 2	0.9544	0.3426	-0.5265	0.5999
Domestic investors	Lag 3	2.6536	0.0095 ***	-0.5495	0.5841
Foreign investors	Lag 3	0.8257	0.4113	-0.4528	0.6519
Domestic investors	Lag 4	2.5036	0.0142 **	-0.3213	0.7487
Foreign investors	Lag 4	0.3931	0.6952	-0.4202	0.6754
Domestic investors	Lag 5	2.2274	0.0286 **	-0.3547	0.7237
Foreign investors	Lag 5	-0.1221	0.9031	-0.4100	0.6828

Note: *significant at level 10,00%; **significant al level 5,00%; ***significant at level 1,00%.

Appendix A Merger and Acquisition (M&A) Data for The Year 1999-2006

No	Symbol	Acquirer	Date of M&As
1	BDMN	Bank Danamon	21/12/1999
2	DYNA	Dynaplast	5/1/2000
3	RMBA	PT Transindo Multi Prima	13/1/2000
4	GGRM	Gudang Garam	28/1/2000
5	BATI	Pt BAT Indonesia	28/1/2000
6	BGMT	PTSiloam Health Care	21/3/2000
7	ETWA	PT Eterindo Wahanatama Tbk	27/3/2000
8	AQUA	PT Tirta Investama	24/04/2000
9	BDMN	Bank Danamon	17/5/2000
10	BNGA	Bank Niaga	25/9/2000
11	DSFI	Dharma Samudera Fishing	10/11/2000
12	SMAR	SMART	29/11/2000
13	TLKM	Telkom	14/12/2000
14	INTP	Indocement Tunggal Perkasa	6/2/2001
15	TINS	Timah	16/2/2001
16	ASII	Astra Internasional	7/4/2001
17	BASS	Bahtera Adimina Samudra	1/5/2001
18	INDF	Indofood Sukses Makmur	1/5/2001
19	TLKM	Telkom	10/5/2001
20	ISAT	Indosat	10/5/2001
21	SIMM	Surya Intrindo Makmur	31/5/2001
22	STTP	Siantar Top	22/8/2001
23	BUMI	Bumi Resources	23/10/2001
24	MEDC	PT Medco Energi International Tbk	7/1/2002
25	CENT	PT Centrin Onlinr Tbk	24/1/2002
26	GGRM	Gudang Garam	7/3/2002
27	SRSN	Sarana Nugraha	2/5/2002
28	IMAS	Indomobil Sukses Internasional	25/6/2002
29	TMPI	AGIS	18/09/2002
30	BNLI	Bank Permata	27/9/2002
31	AALI	Astra Agro Lestari	2/10/2002
32	BYSP	Bayer Indonesia	30/4/2003
33	MYRX	Hanson Industri Utama	28/5/2003
34	JSPT	Jakarta Setiabudi Internasional	26/6/2003
35	INDR	Indorama Synthetic	30/6/2003
36	BUMI	Bumi Resources	9/7/2003
37	BCAP	Bhakti Capital Indonesia	30/9/2003
38	BRPT	Barito Pacific Timber	30/9/2003
39	ISAT	Indosat	11/11/2003
40	JTPE	Jasuindo Tiga Perkasa	4/12/2003
41	IGAR	Igar Jaya	12/12/2003
42	INPC	Bank Artha Graha	16/1/2004
43	BNII	Bank International Indonesia	16/9/2004
44	BCIC	Bank CIC Internasional, Tbk	6/12/2004
45	BMTR	Bimantara Citra	18/3/2005
46	SRSN	PTSarasa Nugaha Tbk	28/6/2005
47	BATI	PT BAT Indonesia Tbk	29/6/2005
48	KLBF	PT Kalbe Farma	3/10/2005
49	MITI	PT Siwani Trimitra Tbk.	13/3/2006
50	ADES	PT Ades Waters Indonesia Tbk	21/4/2006
51	BUMI	PT Bumi Resources Tbk	16/6/2006
52	META	PT Metamedia Technologies Tbk	21/7/2006

Note: This study excluded JSPT (Jakarta Setiabudi Internasional) data due to information incomplete and during observation periods consisted only two transactions.

EVIDENCE ON HOW FIRMS COMBINE DIVIDEND PAYOUTS AND SHARE REPURCHASE PAYOUTS IN THE BURSA MALAYSIA

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Abstract- This paper analyzes firms that combine dividend and repurchases payout using actual data, and finds that the frequency of repurchase activity is negatively (positively) related to firms that simultaneously increase (decrease) their dividend payouts. This means that dividend-increasing firms use repurchasing as a complement to dividends, while dividend-decreasing firms use repurchasing as a substitute for dividends.

Keywords: Dividend, Share repurchases, Bursa Malaysia

1. Introduction

Dividends and share repurchases are two of the most common payout methods used by firms to distribute cash to shareholders. In the U.S., dividends have long been the preferred choice of payout for firms, but since the 1980s, share repurchases have gained popularity as the preferred payout method (Grullon and Michaely, 2002). The percentage of dividend-payers dropped from 66.5% in 1978 to just 20.8% in 1999 (Fama and French, 2001). As of 2004, the aggregate dividends and aggregate repurchases reached the same level (Skinner, 2008). Grullon and Ikenberry (2000) attributed the popularity of share repurchases as an alternative form of payout to their flexibility to exploit the perceived undervaluation of the shares and to increase the liquidity of the shares, which may be the right strategy in a bear market.

Most of the finance literature has looked into the signaling effects and the firms' post-payout operating performance of both payout methods[368]. Increased dividend payout and repurchase activities are interpreted as a positive signal conveyed by the management; since the management knows better about their own firms, any positive distributions to shareholders are greeted positively by the stock market. However, the evidence on the post-payout operating performance of the dividend-increasing and repurchase firms is mixed.

Most studies have looked at the issues separately; only a few have investigated the two payout methods when they are combined[369]. In addition, although such studies are based on accurate data for dividends, they have encountered measurement problems in regards to actual share repurchase because, in the U.S. market, firms are not required to disclose how many shares they repurchase or the amount involved in the repurchase. Therefore, the repurchase measurement is based on estimations (e.g., the value of the repurchase announcement/monthly figure of shares outstanding). However, in the Bursa Malaysia, all firms are required to announce publicly via the Bursa Malaysia website the number of shares repurchased, the price paid, and the amount spent on the same day. These data can provide accurate measurements on share repurchase activity.

This paper uses actual data from the Bursa Malaysia to examine the factors that motivate the firms to execute both payout strategies simultaneously. The results suggest that firms increase dividends and simultaneously repurchase their shares when they have higher income shock and more stable prior income. Doing so indicates that firms do not want to increase dividends drastically but prefer to supplement the extra payout by repurchasing their own shares.

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[368] See Grullon et al. (2005), Grullon et al. (2002), Grullon and Michaely (2002), Benartzi et al. (1997), DeAngelo et al. (1996), Zhou and Ruland (2006), Arnott and Asness (2003), Nissim and Ziv (2001), Jagannathan et al. (2000) and Healy and Palepu (1988).
[369] See Jagannathan et al.(2000), Lie (2005) and Guay and Harford (2000).

This study proceeds as follows: Section 2 reviews the relevant literature, sample and methodology are discussed in Section 3, results and discussions are presented in Section 4, and Section 5 concludes.

2. Literature Review

The studies that have jointly examined dividends and share repurchases have focused on the relative efficiency of both methods as signaling devices and methods of distributing cash. Bartov et al. (1998) found that equity undervaluation, extensive use of stock options and heavy institutional investor relationships will make distributing cash through repurchase more favorable. Guay and Harford (2000) concluded that firms choose dividend increases to distribute permanent cash flow shock, while repurchase is used to distribute transient shock; the stock market reacts more favorably to announcements of dividend increases. Grullon and Michely (2002) suggested that the growth in repurchase activity in the US market is due to firms' substituting share repurchases for dividends. In their comprehensive study, they showed that many firms have initiated cash payouts through dividends, that many firms that have been paying dividends have initiated cash payout through repurchase, and that the stock market reacts less negatively when it perceives firms are substituting share repurchases for dividends. In almost identical studies, Jagannathan et al. (2000) and Lie (2005) looked into the financial flexibility, performance and corporate payout choice between dividend and share repurchases and came to similar conclusions: that firms that increase their payout have better financial flexibility and positive income shock, and that firms with higher operating cash flow prefer payouts through dividend, while repurchase is associated with higher non-operating cash flow. Although most studies have agreed on the financial characteristics and the performance of each payout method, there are two areas of this research that can be improved.

The first is the measurement problem. For repurchase payouts, the figure most commonly used in the analysis of existing studies is based on estimation only because repurchasing firms are not required to report how many shares they repurchase, the price paid, or the total amount involved. Many studies have estimated the repurchase figure from the announcement, when an announcement is just an intention, not an obligation for firms to repurchase their shares. Estimating in this way will lead to over-estimation of the repurchase value. To overcome this problem, Stephens and Weisbach (1998) proposed four methods with which to measure share repurchase activity. The primary measure they proposed is to look into the monthly decrease in shares outstanding reported by CRSP (Center for Research in Securities Prices). A similar measure can be constructed using the number of shares outstanding quarterly on Compustat. However, both of these methods will lead to underestimation of repurchase activity since, during the same period, firms may also distribute shares through stock options, benefit plans and stock sales. The other two methods use the purchases of common and preferred stock from Compustat cash flow data and the Compustat changes in Treasury stock. However, both of these methods use the aggregate of all securities purchases and retirements during the quarter, which will lead into overestimation since the purchase price and the quantity repurchase are unknown.

The second problem in the analysis of existing studies on the subject of repurchases and dividends is related to firms that combined both payout methods. Since the actual data on share repurchases is elusive, almost all of the studies have been silent on any empirical analysis of firms that combine both methods of payout, that is, those that simultaneously pay dividends and repurchase their shares.

In the case of the Bursa Malaysia, firms are required to announce their repurchase activity publicly online. The information contains the number of shares repurchased, the amount involved, and the price paid for the repurchased shares. Based on this information, this study:

(a) examines the type of payout choice using the actual data of share repurchases, and

(b) investigates factors that might influence firms to undertake both channels of payout (dividend and share repurchase), an area that has long been neglected in the literature of corporate payout policy literatures.

3. Sample and methodology

The sample period used in this study is from 1999 to 2005. The choice of the time period is based on the implementation of the share repurchase program in the Bursa Malaysia. This study utilizes the database from Datastream, Thomson Financial Services. To be included in the final sample, data must satisfy four criteria:

- The firm's financial data for four years are available on Datastream, Thompson Financial Services.

- Yearly data on dividends is available.

- Utilities, financial, closed end funds or REITs are excluded from the sample.

- Data on share repurchases available on the Bursa Malaysia website must include date repurchased, number of share repurchased, amount spent on repurchase and price paid for the repurchased shares.

A firm is defined to have increased (decreased) dividends in a given year if the annual dividend increases (decreases) relative to the prior year. Benartzi et al. (1997) defined an annual dividend as four times the last quarterly dividend and a dividend change as the difference between year t's annual dividend and year t-1's annual dividend. Guay and Harford (2000) considered that a dividend increased only when quarterly dividend changes within the fiscal year were either positive or zero. Lie (2005) and Jagannathan et al. (2000) defined dividend increases

(decreases) in a given fiscal year as occurring if the dividend per share increases (decreases).

A firm is defined to have repurchased shares in a given year only if it actually repurchased their shares, rather than simply making a repurchase announcement. The key determinant that is likely related to payout decision is earnings. Similar to Lie (2005) and Jagannathan et al. (2000), I constructed several variables for earnings before the potential payout occurs. *Prior Operating Income* is the average of operating income scaled by total assets during years t–2 and t–3. *Prior operating income volatility* is the standard deviations of operating income scaled by total assets from year t–3 to year t–1. *Operating income (OI) shock* is the difference between the operating income scaled by total assets during years t–1 and t-0 (the event year) and the operating income scaled by total assets during years t–3 and t–2.

To explain the situation in the Malaysian market, *Days of repurchase*, a dummy variable on the total number of days spent on repurchase activities, takes the value of 1 if more than 60 days are spent on repurchase in the calendar year, and 0 otherwise. I included this dummy in order to investigate whether firms use repurchase as a complement to or substitute for dividends. For example, firms that repurchase shares and increase their dividends should spend fewer days repurchasing their shares, in which case it can be concluded that these firms are complementing their dividend payout by repurchasing fewer shares.

Independent directors' composition is the total number of independent directors scaled by total board members. This variable measures whether the composition of independent directors affect the payout pattern of the respective samples.

The other control variables[370] are *Assets*, the book value of assets during the event year that serves as an indicator of firm size (measured in Ringgit Malaysia (RM'000)); *Cash and near cash*

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[370] To mitigate the effects of outliers, I restrict the variables to the following conditions
    a. $0 \leq$ debt < 1
    b. $0 \leq$ retained earnings < 1

scaled by total assets and *total debt scaled by total assets* captures the financial flexibility of the firms.

Retained earnings scaled by total assets, which captures whether the probability of a firm's paying out its earnings through a particular payout channel is positively related to its accumulated earnings over the year, also indicates how long the firm has been operating. Fama and French (2001), Grullon et al. (2002) and DeAngelo et al. (2006) found that established firms are associated with a higher probability of paying dividends.

The final sample consists of 135 observations of increased dividends and repurchased shares and 92 observations of decreased their dividends and repurchased shares. Table 1 provides preliminary statistics on the two groups.

Table 1 Descriptive statistics

		Combination of repurchase and dividend increase	Combination of repurchase and dividend decrease
Assets (RM'000)	Mean	1,719,002	2,274,872
	Median	(645,996)	(730,008)
Cash	Mean	0.1401	0.1405
	Median	(0.1283)	(0.0888)
Debt	Mean	0.1673	0.2006
	Median	(0.1258)	(0.1721)
Prior operating income	Mean	0.0700	0.0595
	Median	(0.0643)	(0.0527)
Operating income shock	Mean	0.0082	-0.0136
	Median	(0.0089)	(-0.0142)
Prior operating income volatility	Mean	0.0251	0.0312
	Median	0.0194	0.0267
Retained earnings	Mean	0.3294	0.2827

	Median	(0.3208)	(0.2696)
Independent directors	Mean	0.3808	0.3788
	Median	(0.3750)	(0.3489)
Number of observations		135	92

Of firms that combined both types of payout, more firms increased dividends and repurchased than decreased dividends and repurchased. On the other control variable, firms that increased dividends and repurchased had higher cash and a lower debt ratio. On the operating income variables, firms that increased dividends and repurchased had higher prior operating income and income shock and more stable prior income, higher retained earnings, and more independent directors that firms that decreased dividends and repurchased.

The overall conclusion from this descriptive statistics is that the dividend-increase-and-repurchase group is the ideal candidate to undertake both positive payout methods, as they are financially superior and have better corporate governance structure.

4. Results and discussion

To examine the combination of both payout methods, I estimate the logistic regression between dividend increases and repurchases versus dividend decreases and repurchases.

Table 2 Correlation coefficient

	Prior OI volatility	OI shock	Prior OI	Log assets	Cash	Debt	Retained earnings
Prior OI volatility	1						
OI shock	-0.036	1					
Prior OI	-0.008	-0.303	1				
Log assets	-0.211	0.061	0.104	1			
Cash	-0.028	-0.032	0.075	0.101	1		

Debt	-0.061	-0.066	-0.193	0.329	-0.086	1	
Retained earnings	0.085	0.074	0.248	0.15	0.08	-0.571	1

Table 2 provides the correlation coefficients between pairs of independent variables used in the analysis to check for multicollinearity. The data indicates that there are no significant correlations between any of the independent variables.

Table 3 Logistic regression on the combined payout choice of dividend increases and repurchase versus dividend decreases and repurchase

	Model 1		Model 2		Model 3	
	Coefficients	p-Value	Coefficients	p-Value	Coefficients	p-Value
Intercepts	1.3145	0.4375	0.8446	0.6045	0.2237	0.8880
Log assets	-0.1436	0.6523	-0.0950	0.7615	0.0033	0.9914
Cash	0.0286	0.9794	0.2896	0.7973	0.0242	0.9825
Debt	-0.1683	0.8968	-0.1042	0.9370	-0.4417	0.7324
Prior operating income volatility	-13.6791	0.0489				
Operating income shock			13.0847	0.0003		
Prior operating income					1.6681	0.5233
Retained earnings	1.8674	0.1218	1.4132	0.2393	1.2633	0.2761
Days repurchase	-0.6134	0.0359	-0.7949	0.0078	-0.6886	0.0172
Number of observations	227		227		227	

Table 3 presents the logit regression analysis between firms that increase dividends and repurchase versus firms that decrease dividends and repurchase. For the dependent variable, firms that increase dividends and repurchase take the value of 1, while firms that decrease dividends

and repurchase take the value of 0. To mitigate the problem of multicollinearity, I run three separate logit regressions in which only one operating income variable is included in each regression.

Table 3 shows the empirical relationship that might explain why firms combine two positive payouts simultaneously. Unlike previous studies, this study utilizes the actual data on dividend and repurchase and examines the factors that may increase the probability of firms' increasing dividends and simultaneously repurchasing their shares. This area has rarely been discussed in the payout literature.

The coefficients on assets, cash, debt, prior operating income level and retained earnings are not statistically significant and cannot explain a firm's decision to increase dividends and simultaneously repurchase shares, although some of the variables do show the expected sign.

Two variables, operating income shock and volatility of prior income, show the expected signs and are statistically significant. The evidence indicates that firms will increase dividends and simultaneously repurchase their shares if they have higher income shock and more stable prior income; this evidence suggests that, when management is in a comfort zone, it can increase regular dividends because of higher income shock and, at the same time, repurchase their shares to distribute any extra income they have earned back to shareholders through both payout channels. As Lintner (1956) suggested, firms should gradually increase their dividends and should not drastically change their payout policy, but the availability of payout through repurchase offers another channel for firms to increase their payout.

The days of repurchase variable can explain the characteristics of the Malaysian market in particular[371]. The result shows that this variable has a negative relationship with firms that

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[371] This is due to the availability of the timing of the repurchase activity, as well as other information, such as number of shares repurchased, amount of money spent, the average price paid and the repurchased

increase dividends and repurchase their shares and that it is statistically significant in all the regressions. This result suggests that firms that increase dividends complement their dividend payout by repurchasing fewer shares in the open market, while firms that decrease dividends compensate for the reduced dividends by actively purchasing more shares from the open market.

5. Conclusions

This study explores the determinants for the choice of combining the payout channels by increasing (decreasing) dividends and repurchase.The main contribution of this study is that the analyses are performed using the actual repurchase data.

This study investigates the characteristics that can explain the incidence of firms simultaneously increasing their dividend levels and repurchasing their shares. Higher income shock and more stable prior income motivate management to distribute cash through regular dividend increases and repurchases. The evidence also indicates that firms that increase dividends supplement extra cash payouts by repurchasing shares in the open market, while firms that decrease dividends compensate for the reduced dividend by repurchasing more shares in the open market.

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6.5 International Accounting

JAPANESE RESPONSES TO THE EXPOSURE DRAFT ON THE CONCEPTUAL FRAMEWORK OF FINANCIAL ACCOUNTING BY IASB/FASB: THE INTERNATIONAL COMPARISON

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Abstract

The IASB / FASB published the *Exposure Draft of an Improved Conceptual Framework for Financial Reporting*, in May 29, 2008. In this ED, the Boards declared that they decided to adopt the entity perspective. The adoption of the entity perspective might bring a paradigm shift in financial reporting. In this paper, we review and analyze the 142 comment letters to the ED in order to find out the possibility of moving into entity perspective.

Most of the comment letters agree that the financial reporting should be prepared from the perspective of entity, rather than the perspective of the owner or proprietary perspective. However, only few of them mention their detail reasons behind their approval. As a person who translated Robert N. Anthony's book*, Future Directions for Financial Reporting* into Japanese, in which entity theory was explained almost clearly, Professor Michimasa Satoh (one of the writer of this paper) sent a comment letter to IASB to find out whether IASB/FASB understand the impact.

Anthony's entity theory is suitable to the co-operative society and to the companies which take care of all the stakeholders (stakeholder capitalism). It is believed that Japanese companies are conducted according to the stakeholder capitalism. Therefore, the comment letters which come from Japan should have welcomed the IASB/FASB decision to adopt entity theory.

1. Introduction

The purpose of this paper is to analyze the significance of the comment letter from Japan to IASB which decided to adopt the "entity perspective" in the Exposure Draft on the Conceptual Framework of Financial Accounting.

In July 2006, the U.S. Financial Accounting Standard Board (FASB) and the International Accounting Standards Board (IASB) published jointly the Discussion Paper, *Preliminary Views on an improved Conceptual Framework for Financial Reporting: The Objective of Financial Reporting and Qualitative Characteristics of Decision –Useful Financial Reporting Information*. That was the first publications jointly developed by the Boards as part of a project to develop the internationally acceptable conceptual framework for financial reporting. The Discussion Paper was issued for public comments until November 3, 2006.

There were 179 comments received as responses for the Boards' Discussion Paper. After the Boards' redeliberations of the issues being addressed in the first phase of the project and consideration of feedback received on the Discussion Paper, the Boards published *Exposure Draft of an Improved Conceptual Framework for Financial Reporting: The Objective of Financial Reporting and Qualitative Characteristics and Constraints of Decision –Useful Financial Reporting Information* in May 29, 2008. The Exposure Draft was also issued for public comment until September 29, 2008. As a result, 142 comment letters were received to comment on those two chapters.

It was epoch making that the term "entity perspective" appeared in the discussion paper and being explained more detail in the exposure draft, which was mentioned as more appropriate than proprietary (or perspective). Although vast majority of today's big business entities engaged in financial reporting have substance distinct from their stockholders, they calculate their income for stockholders (not for the entity) based on the proprietary theory. So it was a big surprise that the Boards decided to adopt entity perspective. However, different from proprietary theory that might have been widely understood, there are many interpretation of

entity theory. This might lead into different perception of what entity perspective is.   In   this context, Robert N. Anthony's book*, Future Directions for Financial Reporting*, in which entity theory was explained almost clearly, becomes very important. Three comment letters were sent to IASB from Japan: from ASBJ, JICPA, and form Professor Junichi Akiyama & Michimasa Satoh as are shown in the Appendix. The ASBJ strongly opposed to the adoption of entity theory (CL # 35), the JICPA was neutral (CL#55), while Professor Akiyama and Satoh agreed and asked to state clearly that all outside capital has a cost to the entity. (See the attached Appendix p.1)

In this paper, the 142 comment letters of the exposure draft are reviewed firstly, and then secondly, the possibility of moving into entity perspective will be analyzed.

2. Review and Analysis

There are 3 questions that were issued in Exposure Draft of Chapter 1: The Objective of Financial Reporting.

1) The Boards decided that an entity's financial reporting should be prepared from the perspective of the entity (entity perspective) rather than the perspective of its owners or a particular class of owners (proprietary perspective). (OB5-OB8 and BC1.11-BC1.16). Do you agree with the Boards' conclusion and the basis for it? If not, why?

2) The Boards decided to identify present and potential capital providers as the primary user group for general purpose reporting (OB5-OB8 and BC1.19-BC1.22). Do you agree with the Boards' conclusion and the basis for it? If not, why?

3) The Boards decided that the objective should be broad enough to encompass all of the decisions that equity investors, lenders, and other creditors make in their capacity as capital providers, including resource allocation decisions as well as decisions made to protect and enhance their investments. (OB9-OB12 and BC1.23-BC1.29). Do you agree

with that objective and the Boards' basis for it? If not, why? Please provide any alternative objective that you think the Boards should consider.

(1) Respondent Types and the Geographic Regions

IASB classified the comment letters received into 9 respondent types in order to enable the Board members to understand the perspective of the respondents and anticipate potential biases. The details of its classification are summarized in Table 1: Respondent Type.

Table 1.   Respondent Type

Respondent Type	Number of Respondents	Percentage
Professional Organizations	33	23%
Individuals	27	19%
Preparers	16	11%
National standard-setters	16	11%
Investors/ Analysts/ Users	12	9%
Accounting firms	7	5%
Academics	7	5%
Regulators	8	6%
Others (NFPs, public sectors)	16	11%
Total	**142**	**100**

The 139 respondents were classified by IASB as written in the 'Comment Letter summary: Objectives and Qualitative Characteristics." However, 3 more comment letters were received after the board meeting. Thus, we add those 3 comment letters according to IASB's classification.

Most of the respondents, 33 from 142 respondents or 23%, are professional organizations. Sequentially, 19% comment letters are from individual, and followed by preparers, national standard-setters, and other (NPFs, public sectors) with 11% per each type.

Furthermore, IASB also identified the respondents by their geographic regions, which are summarized in Table 2: Respondents' Geographic Region.

Table 2
Respondents' Geographic Regions

Geographic Region	Number of Respondents	Percentage
Europe	62	44%
North America	39	27%
Multi-regional	18	13%
Australia/New Zealand	10	7%
Asia Pacific ex. Australia/New Zealand	9	6%
Africa	3	2%
Middle East	1	1%
Total	142	**100%**

Similar to the previous classifications, IASB has classified 139 comment letters into 7 geographic regions. We add on 3 more comment letters which were later received by the Boards.

From the classifications, it could be seen that most of comment letters come from Europe, which is 62 from 142 respondents or 44%, followed by comment letters from North America (27%) and multi-regional (18%).

(2) Responses Regarding Entity Perspective

As to the first question, responses are summarized in Table 3: Responses Regarding Entity Perspective.

Table 3
Responses Regarding Entity Perspective

Responses		Addressee			Total
		IASB	FASB	Unknown	
A.	**Agree**				**63**
	1. Totally agree	29	5	1	35
	2. Generally agree, but recommend something	22	6	-	28
	(Generally agree, but need more discussion)	(3)	-	-	(3)
B.	**Disagree**				**22**
	1. Totally Disagree	6	1	-	7
	2. Disagree and recommend something	14	1	-	15
	(Disagree and need more discussion)	(4)		-	(4)
C.	**No Opinion**				**57**
	1. Blank	13	18	4	35
	2. Some suggestions	19	-	3	22
	(More discussion)	(9)	-	-	(9)
	Total	*103*	*31*	*8*	*142*

We divided the 142 comment letters received into three groups: agree (A), disagree (B), and no opinion(C). First group is those who agree that an entity's financial reporting should be prepared from the perspective of the entity (entity perspective) rather than the perspective of its owners or a particular class of owners (proprietary perspective). There are 35 comment letters who totally agree (A.1.) and 28 comment letters show agreement but also recommend something to the Boards at the same time (A.2.). Included in the second subgroup are comments who suggest in-depth discussion. Subtotal for Group A is 63 comment letters.

In A.1., each comment letter expresses its agreement differently. Some of them express it in a very simple way, such as comment from American Institute of Certified Public Accountants (AICPA) which explicitly writes, "Technical Issues Committee (TIC) supports the Boards' conclusion". Another type of comment A.1 is shown by expressing agreement with longer reasons, such as written by Cooperative Europe, "In our view, the entity perspective

should be the entity's financial reporting perspective. We fully agree with the boards' conclusion that an entity obtains economic resources in exchange for claims (its liabilities and equity) and information about the economic resources (its assets) from capital providers (equity investors, lenders and other creditors)."

In A.2., an example of comment letter is from Junichi Akiyama and Michimasa Satoh. It expresses agreement but also give recommendation to the Boards by writing, "We agree that the Boards decided that an entity's financial reporting should be prepared from the perspective of the entity (entity perspective) rather than the perspective of its owners or a particular class of owners (proprietary perspective). At the same time, we would like to propose to add the following sentence at the end of OB6, and just before (a), 'Funds provided by all capital providers have a cost to the entity'".

Group B classify comment letters with disagreement. There are 22 comment letters in the second group, with 7 'disagree' comment letters (B.1.) and 15 'disagree and recommend something' comment letters (B.2.). Included in B.2 are 4 comments which disagree and recommend the Boards to conduct a discussion such as an open debate.

Most of comments in Group B are in B.2, which express disagreement and also recommend something. An example of comment letter is written by Accounting Standard Board Japan (ASBJ). It states its disagreement in some parts of the comment letters, "The entity perspective is meaningless, if the claims are to be distinguished into liability and equity" and add some recommendation in another part of the comment letter, "We believe that the objective of financial reporting would be more easily achieved by focusing on the shareholders of the parent company who bear the final risks, rather than focusing on all classes of users."

The last group is Group C, which consists of 57 'no opinion' comments. 35 comment letters leave this part blank (C.1.) and the other 22 comment letters write some suggestions (C.2.). The Japanese Institute of Certified Public Accounting (JICPA) writes that

they "neither agree nor disagree" and suggest that there should be "some room and flexibility for possible reconsideration of this issue depending on the direction of future discussion should be provided."

It should be noted here again that three different comment letters were sent from Japan to IASB.

(3) Responses Regarding Present and Potential Capital Providers as the Primary User Group

For the second question, the answers are summarized in Table 4: Responses Regarding Present and Potential Capital Providers as the Primary User Group.

Table 4
Responses Regarding Present and Potential Capital Providers
as the Primary User Group

Responses		
A.	**Agree**	**63**
	1. Totally agree	29
	2. Generally agree, but recommend something	34
	(Generally agree, but need more discussion)	(-)
B.	**Disagree**	**23**
	1. Totally Disagree	11
	2. Disagree and recommend something	12
	(Disagree and need more discussion)	(-)
C.	**No Opinion**	**56**
	1. Blank	31
	2. Some suggestions	25
	(More discussion)	(1)
	Total	*142*

The classification of comment letters received for the second questions is similar to the previous question. In the first group, there are 29 comments which agree with the term 'capital providers' (A.1.) and 34 comments which generally agree but recommend something (A.2.). The subtotal in Group A is 63 comment letters. AICPA fully support the Boards' conclusion (A.1.) by writing, "Technical Issues Committee (TIC) supports the boards' conclusion." Comment Letter from Accounting Standards Boards (ASB) is one example in

A.2., "The ASB is in general agreement with the IASB that primary user group comprises the present and potential capital providers. However, there are a few inconsistencies in the way this has been expressed in the proposals in the ED…"

In Group B, subgroup B.1 (totally disagree) consists of 11 comments while B.2 (disagree and recommend something) consists of 12 comments. Subtotal for this group is 23 comment letters. Cooperative Europe is one of comments in B.2., "We disagree with the concept that IASB gives as a 'capital provider', which is divided into equity investors, lenders, and other creditors. The problem is that only capital provided by equity investors will be shown in the balance sheet. Moreover, cooperatives Europe would like to enhance the main problems with 'equity investors' definition…"

Being classified in Group C are those with no opinion regarding the term 'capital providers'. 31 comment letters do not give any comments (C.1) and 25 comments write come suggestion, including one comment that recommend more discussion (C.2). Subtotal for this group is 56 comment letters. European Financial Reporting Advisory Group (EFRAG) is included in C.2. In its comment letter, EFRAG writes, "It might be best to start by identifying the users of financial statements and their information needs, then, after considering what information general purpose financial reports could reasonably be expected to provide, narrow that down to a list of users' information needs that general purpose financial reports should be designed to meet; and then translate that into an objective for general purpose financial statements…"

(4) Responses Regarding Broad Decisions Goal

The results for the last question in chapter 1 are summarized in Table 5: Responses Regarding Broad Decisions Goal. We use the same classification to summarize responses in the last question. In Group A, there are 61 comment letters, with 35 comments in A.1 (totally agree) and 26 comments in A.2 (generally agree, but recommend something).

In A.1., there is Accounting Standards Executive Committee of the American Institute of Certified Public Accountants (AcSEC) which simply expresses its support by writing, "Agree with the Boards' conclusion and basis for it". In A.2., there is Association of International Accountants which writes, "AIA accepts the proposed objective and again urge the Boards to fully recognize the negative implications."

Table 5
Responses Regarding Broad Decisions Goal

Responses		
A.	**Agree**	**61**
	1. Totally agree	35
	2. Generally agree, but recommend something	26
	(Generally agree, but need more discussion)	(-)
B.	**Disagree**	**11**
	1. Totally Disagree	6
	2. Disagree and recommend something	5
	(Disagree and need more discussion)	(-)
C.	**No Opinion**	**70**
	1. Blank	40
	2. Some suggestions	30
	(More discussion)	(-)
	Total	*142*

Group B consists of 11 comment letters. 6 comments go to classification B.1 (totally disagree) and 5 comments in B.2 (disagree and recommend something). The last group or Group C, similar to previous sections, consists of comment letters with 'no opinion'. 40 comment letters do not write anything in this part, while 30 comment letters leave some suggestions. Example of comment in C.2 is the comment from BUSINESSEUROPE, "We recommend that: (a) Stewardship and accountability remain as a separate objective from decision usefulness, (b) The boards in standard-setting have the duty of identifying any information which would be relevant for such a purpose, and (c) Stewardship and accountability as a separate objective are dropped at the next revision of the framework if

bases for conclusions of future standards make it clear that no specific consideration needs to be given to the information needs they generate."

3. The IASB Update

Surprisingly, after the two documents that affirmed the entity perspective as the basic perspective, the Boards decided two amendments on the proposals of Exposure Draft in the IASB Update in March 2009 (Board Decision on International Financial Reporting Standards). One of the amendments was "to avoid using, when possible, the terms entity perspective, entity theory, and proprietary perspective *because they do not convey the boards' view*". The Boards also directed the staff to start drafting the final versions of the chapters on the objective of financial reporting and the qualitative characteristics of and constraints on financial reporting.

The update was the result of IASB meeting in March 2009, as written in the Information for Observers. IASB decision was based on the comments from respondents that "entity perspective (or entity theory), proprietary perspective (or proprietary theory) and parent company approach have different meanings to different people. In fact, the Boards itself think it is not clear whether the Boards used the terms with the same meanings in all cases. Therefore, it was recommended that the conceptual framework describe the Boards' view without labeling them, particularly in the objectives chapter. The idea could be described more clearly by saying that financial statements should focus on providing information about the financial position (and changes therein) of the entity itself".

FASB's minutes in April 2009 also mentioned similar conclusion regarding the use of the term entity perspective. Along with IASB, FASB staff recommended that the exposure draft described the Boards' view without labeling entity perspective, proprietary perspective, and parent company approach.

Besides appeared in the phase A (the objective and qualitative characteristics), the term "entity perspective" also appeared in the Discussion Paper of phase D (reporting entity concept).

Since in the phase A the Boards decided that financial reports should be presented from the entity perspective, in the context of a group reporting entity, financial statement are prepared from the perspective of that group, not from the perspective of the parent company's shareholders. The Boards now is drafting the Exposure Draft of the Reporting Entity Concept. The Exposure Draft of the reporting entity concept will then similarly delete all the explanations using this term.

4. The New Analysis of Equity Theory

The main reason of the confusion that happened on the Boards may be attributable to the fact that the new entity theory proposed by Robert N. Anthony was not clearly understood by many respondents.

The two most held views in corporation accounting, which affect how the businesses are managed, are proprietary concept and entity concept. The contrast between those two views will be first briefly explained. Subsequently, the new definition of entity theory by Robert N. Anthony will also be explained.

(1) Proprietary Theory

Proprietary theory might have been widely understood in an almost uniform viewpoint. According to this theory, company is owned by some persons or group, which is the center of interest, and also called as proprietor. Paul Rosenfield (2005) defined proprietor as, "a person or persons who are the ultimate beneficiaries of success or suffers of failure of the business and to whom duties of the business to transfer resources to them are discretionary". Moreover, Vatter (1947) also described, "For proprietary theorist the proprietor is the person to whom and for whom reports are made, and the concepts of net worth and profit are personal ideas, in that the proprietor's interest is the axis around which the process of accounting revolve".

The notion of proprietorship originally comes from the logic of the exposition of double-entry bookkeeping:

$$Assets - Liabilities = Proprietorship$$

All the assets of the firm belong to the owners or proprietors, and any liabilities are also their obligations. Thus, revenues received by the firm are increases of the proprietorship or net interest of the firm and, likewise, the liabilities born by the firms are decreases of the net proprietary interest in the firm (Hendriksen and Breda, 2001; Schroeder and Clark, 1998). As a result, proprietorship, which is considered to be the net value of the owners, is equal to the original investment and additional investment plus the accumulated net income (or minus net losses), after being deducted by withdrawn by the proprietors. Therefore, Hendriksen and Breda (2001) named it a wealth concept.

Furthermore, they explain, "Net income, the excess of revenues over expenses, accrues directly to the owners; it represents an increase in the wealth of proprietors. And since income is an increase in wealth, it is immediately added to the owner's capital or proprietorship. Cash dividends represent withdrawals of capital, and retained earnings are a part of total proprietorship. Interest on debt, however, represents an expense of the proprietors and should be deducted before arriving at net income to the owners. Corporate income taxes are likewise expenses in the proprietorship theory; however some argue that the corporation is acting as an agent of the stockholders in paying the tax that is really a tax on the income of the stockholders." (Hendriksen and Breda, 2001, p.770)

Bird, Davidson and Smith (1974) explained the contrast between Entity and Proprietary Theories and noted that proprietary approach viewed the enterprise as an agent of the owners and the records as an accounting by the proprietors for their own property. In this case, owners are not considered as outside parties. Thus, this theory is best for sole

proprietorships in which owners are also the managers of the business. When the businesses are getting bigger and more complex, proprietary concept might be less acceptable.

However, many of today's accounting practices are still affected by this concept. As Hendriksen and Breda write, "…many writers have chosen to look through the veil of the corporate form and describe the total of the invested capital stock and retained earnings as the net wealth of the stockholders, implying the proprietary theory. The comprehensive income concept adopted by the FASB, for instance, is based on the proprietary theory. It includes all items affecting proprietorship during the period except dividend withdrawals and capital transactions." (Hendriksen and Breda, 2001, p. 770)

(2) Traditional Interpretations of the Entity Theory

The entity theory views business as something separate and distinct from the entity's capital provider. It puts the business unit, rater than the proprietors, investors, or any other parties, as the center of accounting interest and financial reporting purposes. "Because accounts and financial statements relate to business enterprise rather than to owners, revenues and costs are defined in terms of changes in enterprise assets rather than as increases or decreases in proprietorship." (Patton and Littleton, 1940, p. 7)

The entity theory is expressed in the basic accounting equation:

$$Assets = Equities$$

Since assets and liabilities belong to the entity, and not the owners, revenue received will directly be the entity's revenue or property, and expenses incurred will be the entity's obligation. Thus, the profits resulted belong to the entity, as well as the revenue and expenses, and accrue to the stockholders only when dividend is declared. All the items on

the right-hand side, except the retained earnings, are claims against the entity's assets, either in the form of creditor claims or owner claims (Schroeder and Clark, 1998)

Similarly, Hendriksen and Breda also note that, "The net income of the enterprise is generally expressed in terms of the net change in the stockholders' equity, not including changes arising from dividend declarations and capital transactions. This is not the same as saying that the net income is the income to the stockholders, as is implied in the proprietary theory. Net income, in the entity view, simply represents a residual change in equity position after deducting all other claims, including interest on long-term debt and income taxes. It is personal income to the stockholder only if the value of the investment has increased or to the extent of a dividend declaration." (Hendriksen and Breda, 2001, p. 772)

(3) **The New Definition of Entity Theory by Robert N. Anthony**

Another entity theory is explained by Robert N. Anthony in his book, *Future Directions for Financial Reporting* (1984). It develops entity theory in most logic and clear way of thinking. Anthony's entity theory explains that if the accounting entity is viewed as an organization distinct from its owners that means the entity owns the assets, and the entity owes the amounts due to outside parties. As a result, the balance sheet of an entity should report the financial interests of the entity, not financial interests of its owners.

Anthony firstly explained the entity theory in similar way as previously explained entity theories. The right-hand side of the balance sheet reports sources of the entity's funds while the left-hand side report how those funds are invested. The balance sheet reflects the investment and financing of the entity as a whole, and thus making the basic accounting equation be 'Assets = Source of funds'.

"The view of the balance sheet is more realistic than the view implicit in current practice and corresponds to the nature of assets and liabilities as currently reported. The liabilities report the amount of funds furnished by lenders, by vendors (in the form of

accounts payable), by employees (in the form of accrued salaries and perhaps unfunded pension benefits), and by the government (in the form of deferred taxes)." (Anthony, 1984, p. 77)

In addition, Anthony also argued that earnings were earned not by the shareholder participants, but by the entity itself. The amount showed in the shareholder equity section of the balance sheet does not equal to the amount of funds supplied by the shareholders, because retained earnings are included. The paid-in capital shows the amount of shareholders supplied initially, but retained earnings were not contributed by shareholders.

Furthermore, Anthony mention three entity source of funds, which are supplied by creditors, shareholders, and the other one, is generated by the entity's own efforts. Funds supplied by creditors are liabilities, while funds supplied by shareholders are shareholder equity. Those two funds supplies have been widely known in the current accounting practices. Then, Anthony refers to the third type as *entity equity*.

Balance Sheet under the Entity Theory

ASSETS	Liabilities
	Shareholder Equity
	Entity Equity

However, Anthony insists that there should be cost of using shareholders funds to the extent that dividends have not been repaid. The cost of using shareholder equity fund is referred as *equity interest*. This is because, "Unpaid equity interest is a source of funds, just like unpaid debt interest. To the extent that shareholders receive preferred stock, and dividends on this stock correspond to the cost of these funds, unpaid preferred dividends is a

component of equity interest. Unpaid interest on common stock should appear on the balance sheet." (Anthony, 1984, p. 77)

"The amount of funds generated by an entity's own operations during a period is measured by net income. Net income should be calculated by as the difference between revenues (including gains) and expenses (including losses and equity interest). Each year's net income should be added to entity equity, just as net income is added to retained earnings in current practice. Because equity interest is recognized as a cost, however, the amount added to entity equity would be much smaller than the amount added to retained earnings as currently reported. Entity equity as of a given date is the sum of all net incomes to date." (Anthony, *Future* 1984, p. 78) In the other parts of the book, Anthony also proposes some rates to solve the measurement problems. Those are pretax debt rate, specified risk premium, and specified published rate.

Under Anthony's interpretation, the entity theory might bring radical consequences. However, Zambon and Land (2000) argue that, "Between the different interpretations of the entity theory, Athony's position seems the most consistent with the conceptual premises of the entity point of view: all the constituents are considered as 'third parties', and the 'beneficiary' of the accounting process is the firm itself. A consistent entity approach to income calculation should in fact be indifferent to the institutional form which is taken by a firm to run its business." Furthermore, they also added that, "Anthony's interpretation of the entity theory is the most easily and immediately applicable to the co-operative anomaly, since it does not require any adaptation at all. According to the different form of co-operative society, the expression of 'implicit cost' will be referred to as either the cost of labor in the workers' co-operative, or the sale revenue in the consumers' co-operative. The cooperative profit would appear, then, as the over or under price for the products transferred) to co-operative members, which has been permitted by the specific factor

combination achieved, and the organizational self-coordination realized, by the entity-co-operatives'".

It also should be noted here that the amount of the entity income, shareholder equity and Entity equity that are calculated by Anthony model are all relevant to stakeholders such as shareholders, creditors and employees.

5. Conclusion

Most of the comment letters agree that the financial reporting should be prepared from the perspective of entity, rather than the perspective of the owner or proprietary perspective. However, only few of them mention their detail reasons behind their approval, which commonly mention that current business entities engaged in financial reporting have substance distinct from that their capital providers. Furthermore, many comment letters urge the Boards to explain the entity perspective more fully, as well as the consequences of adopting this perspective. From their comments, it was hard to find that they understand the concept of entity perspective as explained by Robert N. Anthony in his book, *Future Directions for Financial Accounting*.

Anthony's entity theory is suitable to the companies which take care of all the stakeholders (stakeholder capitalism). It is believed that Japanese companies are conducted according to the stakeholder capitalism. Therefore, the comment letters which come from Japan should have welcomed the IASB/FASB decision to adopt entity theory. One of the comment letters that came from Japan, which is written by Professor Satoh and Professor Akiyama, did support the Boards' conclusion, while ASBJ did not. Meanwhile, the comment letter from JICPA did not give any opinion, whether agree or disagree.

The idea of adopting the entity perspective might be influenced by the recent trends of corporate governance. As written in the BC1.22 of the Exposure Draft, "The Boards concluded that a focus on a broader primary user group fulfills the needs of the full range of capital providers both in jurisdictions with corporate governance model defined in the context of shareholders and in jurisdictions with a corporate governance model that focuses on

stakeholders, which is a broader group of shareholders." Thus, the Boards proposed the entity perspective as the basic perspective underlying financial report in order to support the stakeholder model of corporate governance. However, either pros or contras comment letters showed extreme responds that might not be predicted before. The comment letter form Prof. Satoh is one of the examples of the supportive comment letter. Despite its agreement, it also reminds the Boards of the effect of adopting the entity perspective. Another kind of comment letters is the unsupportive comment letters, which strongly disagree with the Boards decision, such as ASBJ's comment letters. Therefore, the boards finally decided not to use the term entity perspective, but simply describe more clearly by saying that financial statements should focus on providing information about the financial position (and changes therein) of the entity itself.

Even though the term entity perspective would not be used in the conceptual framework, the possibility of accounting model of stakeholder capitalism, at least in Asian countries, should remain to be explored.

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Appendix: Comparison of Some Comment Letters on the Exposure Draft
Conceptual Framework for Financial Reporting: The Objective of Financial Reporting

Comment Letter	Asia				
	Japan			Korea	China
	Junichi Akiyama and Michimasa Satoh (CL 96)	The Japanese Institute of Certified Public Accounting (CL 55)	Accounting Standard Board Japan (CL 35)	Korea Accounting Standard Board (CL 117)	Hong Kong Institute of Certified Public Accountants (CL 21)
(1) Entity Perspective	They agree that the boards decided that an entity's financial reporting should be prepared from the perspective of the entity rather than the perspective of its owners or a particular class of owners. They also purpose to add the following sentence at the end of OB6, and just before (a), "Funds provided by all capital providers have a cost to the entity".	1. Neither agrees nor disagrees. The explanation about conceptual foundation has been extended on why the entity perspective is more useful. However, the theoretical basis and explanation supporting is particularly insufficient. This is a truly fundamental issue in financial reporting and there are many different opinions about what is the most appropriate view. 2. Moreover, the boards state that they had not yet considered all the possible implications of that decision on future phases of the framework project. 3. Therefore, we believe that some room and flexibility for possible reconsideration of this issue depending on the direction of future discussion should be provided.	1. No logical relationship between the accounting point of view and the range of users, which the ED proposes to expand. 2. As one of accounting conventions widely accepted in the accounting world, there is convention of 'business entity', which regards an entity as independent of owners (shareholders). This has nothing to do with the accounting point of view. 3. The entity perspective is meaningless, if the claims are to be distinguished into liability and equity. 4. It may be harmful to predetermine the adoption of a particular accounting point of view which greatly affects the definitions of elements, separately from the consideration about how best to define elements. 5. The entity perspective is incompatible with the existing asset-liability approach and might have various effects on the existing accounting treatments. Its adoption should not be determined without thinking of those effects. 6. The capacity of the group reporting entity to generate future net cash flows is less relevant to decisions of creditors and shareholders of subsidiaries. Thus, consolidated financial statements should be prepared from the perspective of the parent company's shareholders	IASB states that adopting the entity perspective does not preclude the inclusion of information reflecting the views of the equity investors. Then, how to solve inconsistencies between framework (principles) and standards? There may be so many issues in standards besides earning per share and such problems would remain unresolved.	Support the boards' view that generally financial reports should reflect the perspective of the entity rather than the perspective of the entity's proprietors. However, this should not be necessarily construed as acceptance of the economic entity approach, which is the topic of the recently issued discussion paper and not this ED.

2068

Comment Letter	Asia				
	Japan			Korea	China
	Junichi Akiyama and Michimasa Satoh (CL 96)	The Japanese Institute of Certified Public Accounting (CL 55)	Accounting Standard Board Japan (CL 35)	Korea Accounting Standard Board (CL 117)	Hong Kong Institute of Certified Public Accountants (CL 21)
(2) Present and Potential Capital Providers as the Primary Use Group			1. Necessity of the change in the basic view about the targeted users should be clearly explained both from the viewpoint of the disadvantages under the existing framework and the improvements expected from the proposed change. 2. If the range of the targeted users is expanded and only the information <u>commonly</u> needed by all of them is provided, the volume of the information provided would diminish. By focusing on shareholders who bear the ultimate risk and therefore need the largest amount of information, needs by other users can be basically satisfied.	1. The ED states that capital providers as the primary user group consist of equity investors and lenders including other creditors. This classification is not reasonable since the scope of rights and responsibilities between two groups are so different. 2. It should not pass over the fact that traditionally equity investors have been treated as the most important users of financial reporting, considering their financial responsibilities to the entity. 3. If there is no significant change in the terms of quantity and quality in financial reporting, it would be better to maintain the current concept without identifying special groups.	
(3) Broad Decision Goals			1. Although the ED emphasizes the importance about an entity's economic resources and claims to them, importance of information cannot be determined a priori and it becomes clear only by observing the behaviors of its users on the security market. Usefulness of profit information representing the business results of an entity has been evidenced by empirical facts and the conceptual framework should take into consideration. 2. It is erroneous to explain net income and gains and losses by linking them to the net change during a period in economic resources and claims on them.		1. HKICPA appreciate the board's effort in addressing specifically the stewardship responsibilities of management in the framework. However, we believe that the significance of the concept of stewardship should not be subsumed within a decision usefulness objective. 2. Majority of business entities in the private sector are small or medium-sized unlisted entities where one of the primary users of financial statements - existing shareholders - rely on financial statements to help them to monitor the management of the entity's operations. Without setting the concept of stewardship as a separate objective of financial reporting, HKICPA is doubtful as to whether financial reporting can help management in discharging their responsibilities.

Comment Letter	Asia				
	Japan			Korea	China
	Junichi Akiyama and Michimasa Satoh (CL 96)	The Japanese Institute of Certified Public Accounting (CL 55)	Accounting Standard Board Japan (CL 35)	Korea Accounting Standard Board (CL 117)	Hong Kong Institute of Certified Public Accountants (CL 21)
(4) Other comments	The reason of the proposal is because they believe that the boards do not intend to apply a specific thought of the financial accounting and reporting. However, they would like the boards to keep a flexibility to adopt, at the standards setting level, recognizing a capital cost on funds provided by all capital providers, such as one proposed by Robert N. Anthony, *Future Directions for Financial Accounting*, Dow-Jones-Irwin, 1984.	1. The purpose of the framework and its status within the hierarchy of standards should be defined prior to the discussion of its contents. JICPA believes that the common conceptual framework should be positioned above all standards. 2. OB16 of Discussion Paper included a description about the relationship between financial reporting and financial statement, which stated that financial and non-financial information other than financial statement could be included in the general purpose financial reporting as set forth in the framework. JICPA believes that it is doubtful that such information can satisfy the qualitative characteristics and auditable.	1. Replacement of the existing conceptual framework should be made at the completion of the systematic reconsideration of the whole of the conceptual framework. 2. Amendment of individual accounting standards affecting the conceptual framework should be undertaken in full conjunction with the work of the amendments to the conceptual framework.	**From 6 pages, 4 pages are blank/missing**	1. To ensure consistency and compliance with the principles in the framework, it must be given the appropriately high authoritative status. The boards should ensure the conceptual framework retains the same authoritative status it currently holds within IFRS. 2. The boards need to address the assumption of going concern in some project in this joint project.

2070

Comment Letter	Europe				
	BUSINESSEUROPE (The Confederation of European Business) (CL 16)	Cooperatives Europe (CL 134)	European Financial Reporting Advisory Group (EFRAG) (CL 137)	Accounting Standards Board (ASB) (CL 120)	German Accounting Standards Board (DRSC) (CL 37)
(1) Entity Perspective	The boards very rapidly opt for the entity's perspective because it would be the only perspective consistent with the objective of serving a wide range of users' needs. BUSINESSEUROPE believes that it needs a more in-depth analysis and justification.	Agree that the entity perspective should be the entity's financial reporting perspective. Cooperatives Europe fully agree with the boards' conclusion that an entity obtains economic resources in exchange for claims (its liabilities ad equity) and information about the economic resources (its assets) from capital providers (equity investors, lenders and other creditors).	1. The proprietary perspective might not a satisfactory perspective to use when preparing general purpose financial reports. The basis for conclusion seems to imply that, if one rejects the proprietary perspective, one must adopt an entity perspective, while there are other possible perspectives, such as parent shareholder perspective. 2. The ED is proposing the adoption of the entity perspective even though, as the boards themselves have admitted, they do not know what the implications of this proposal are for the rest of the framework. 3. EFRAG thinks it is important that the IASB clarifies its position on how to align the entity perspective with the equity investor's interest in the reporting entity's ability to generate cash flows. 4. From all that reasons, EFRAG believes it is essential that there is a comprehensive and in-depth debate of this issue before a conclusion.	The entity perspective is sometimes depicted with the following simple equation: Asset = Liability + Equity Therefore, one could deduce from the entity's perspective any item on the balance sheet that is not an asset of the entity is a claim on those assets. This approach would not differentiate between liabilities and equity, both of which represent claims against the entity. This then begs the question as to why the differentiation between liabilities and equity is still maintained. This lie of reasoning can be used to justify the claims approach and an elimination of the distinction between equity and liability. Thus, ASB would recommend that the IASB considers this issue more thoroughly, taking into account all relevant issues, as well as engaging constituents in this debate before making any conclusions.	1. DRSC welcome that IASB expanded the description of its understanding of the entity perspective and the proprietary perspective and of its reasons for choosing the former as the basic perspective underlying financial reports in the Basis for Conclusions. 2. However, DRSC believes that these explanations do not provide a sufficient basis to comment on the question whether the adoption of the entity perspective is superior to the proprietary perspective. 3. In particular, the relation of determining a primary user group and adopting a reporting perspective remains unclear. 4. DRSC has concerns about adopting the entity perspective without discussing and deliberating the potential implications of that decision for decisions to be made in later project phases in other projects. 5. DRSC has concerns about adopting the entity perspective without discussing and deliberating the potential implications of that decisions to be made in later project phases and in other projects.

2071

Comment Letter	Europe				
	BUSINESSEUROPE (The Confederation of European Business) (CL 16)	**Cooperatives Europe (CL 134)**	**European Financial Reporting Advisory Group (EFRAG) (CL 137)**	**Accounting Standards Board (ASB) (CL 120)**	**German Accounting Standards Board (DRSC) (CL 37)**
(2) Present and Potential Capital Providers as the Primary Use Group	1. The assertions (OB2, OB13) need more thorough research for credibility. 2. The very light description of users and their needs which is provided in OB6 would be valuably replaced by an analysis and description of what all these users have in common and where their needs differ or vary. From then on, the boards could have the ability to decide and explain why they identify primary categories and users and how they expect other user needs to be fulfilled. 3. At present no common understanding of the information which is relevant for assessing the ability to "generate future cash in-flows". 4. What is relevant to users is also relevant to management and vice versa, although not at the same level of detail. Management as well as investors and creditors make resource allocation decisions on the basis of the entity's data. 5. The definition of an entity's performance needs to be debated and understood.	1. Cooperatives Europe disagrees with the concept that IASB gives as a 'capital provider', which is divided into equity investors, lenders, and other creditors. The problem is that only capital provided by equity investors will be shown in the balance sheet. 2. Moreover, cooperatives europe would like to enhance the main problems with "equity investors" definition, (a) IASB includes as equity investor holders of equity securities, holders of partnership interest and other equity owners, but not members of cooperatives, (b) IASB framework concept strictly focuses on the business model of capital investors of corporations listed on regulated markets but does not take into account non-listed small and medium-sized entities with other legal forms like cooperatives".	1. It might be best to start by identifying the users of financial statements and their information needs, then, after considering what information general purpose financial reports could reasonably be expected to provide, narrow that down to a list of users' information needs that general purpose financial reports should be designed to meet; and then translate that into an objective for general purpose financial statements. 2. There are some unsupported assertions: (a) The information needs of capital providers are homogeneous, (b) the main focus should be on entity's ability to generate cash flows, (c) ED states that users need information that helps them make an assessment about future cash flows, but it does not go on to explain what sort of information that helps them make an assessment about future cash flows.	1. The ASB is in general agreement with the IASB that primary user group comprises the present and potential capital providers. However, there are a few inconsistencies in the way this has been expressed in the proposals in the ED. 2. The ASB would like to ensure that it is clear from the framework that management is primarily accountable to the equity investors. OB12 notes that 'management is accountable to the entity's capital providers for the custody and safekeeping of the entity's economic resources ASB would prefer to see the reference to 'capital providers' in that sentence and the last sentence in OB12 to be changed to 'equity investors'.	1. Different user groups have different information need, as the decisions these groups have to make are often dissimilar. Consequently, the most favorable information for one group is not necessarily the most favorable for other user groups as well. 2. There seems to be a big difference between equity investors providing risk capital and, therefore, having both up- and downside risks, and lenders/other creditors. This difference results in difference in information needs. DRSC believes that equity investors and lenders/creditors are too heterogeneous to be only combined into the primary user group, since the primary user group concept only works if there is sufficient homogeneity in the information needs within this user group. 3. It would be better to retain the current narrower approach of defining investors of risk capital as the primary user group, because meeting the investors' need will in many cases implicitly meet the needs of lenders and other creditors.
(3) Broad Decision Goals	Recommend that: 1. Stewardship and accountability remain as a separate objective from decision usefulness. 2. The boards in standard-setting have the duty of identifying any information which would be relevant for such a purpose. 3. Stewardship and accountability as a separate objective are dropped at the next revision of the framework if bases for	Agree with the inclusion of decision made to protect and enhance investment of capital providers as an objective of financial reporting is useful in assessing management stewardship. However, the general objective of decision usefulness is too narrow. Members in cooperatives primarily are not interested to 'protected and enhance their capital' but seek to reach their economic goals by joining a cooperative.	1. Agree in principle with the broader objective of general purpose financial reporting included in the ED. However, there are types of information of financial reports that are clearly general purpose that appear to have very different objectives ad/or qualitative characteristics. 2. There are different descriptions about management's responsibilities in OB12 and	1. The ASB agrees that the objective as identified in the ED is broad enough to encompass the decisions of capital providers. 2. However, the concern is in the relation to the not-for-profit entities which may not be as well served by the objective as identified. In this respect, ASB recommend that the IASB refers to the July 2008 report produced	Agree with the broader objective of general purpose reporting as set out in the ED. As capital providers' decisions on whether and how to protect and enhance their investments are directly linked to management's ability to protect and enhance capital providers' investments, DRSC are now more comfortable with the description of financial reporting's objective. The objective of financial

2072

	conclusions of future standards make it clear that no specific consideration needs to be given to the information needs they generate.		OB6(a) 3. Stewardship is more than just protecting (and maybe enhancing) the entity's resources. 4. Stewardship is not something that is owed to all capital providers; it is about being responsible to equity capital providers only, not to lenders.	by the chairs and senior staff of the Australian, Canadian, New Zealand, and United Kingdom Accounting Standards Boards on the implications for the not-for-profit sector of the framework proposals.	reporting set out in the Ed takes better into account past and future aspects of entities' economic activities, which are both relevant for capital providers' decisions.

Comment Letter	Europe				
	BUSINESSEUROPE (The Confederation of European Business) (CL 16)	**Cooperatives Europe (CL 134)**	**European Financial Reporting Advisory Group (EFRAG) (CL 137)**	**Accounting Standards Board (ASB) (CL 120)**	**German Accounting Standards Board (DRSC) (CL 37)**
(4) Other comments	1. IASB should have in mind that it now serves as the standard-setter for many jurisdictions in the world. Having set a fully debated conceptual framework should form for the IASB the necessary shared understanding with its constituents of the accounting model that future IFRS are to build or safeguard. 2. IASB leaves no room for debate on the most fundamental issues. The discussion paper includes too many assertions which are repeated in the basis for conclusions instead of being fully explored and debated. 3. The conciseness of the existing IFRS framework is being abandoned, while it gave the framework more strength and robustness. 4. For the time being the scope of the framework should remain limited to financial statements. 5. The going concern assumption should be reinstated.		1. It is difficult to comment effectively and comprehensively when it is not clear what the implications of the various changes being made in those earlier chapters are for later chapters. 2. Because the framework is part of the hierarchy, it is important that it should be coherent and consistent piece of work. 3. EFRAG recognize that the IASB has a difficulty: it wishes the changes it is making to be relevant for standard-setting and hierarchy purposes as soon as possible, but waiting for the whole framework to be finalized will mean that the changes will not be 'in place' for many years. 4. The link between what is relevant for external users and what is relevant to management is important, and should not be overlooked.	The ASB remains concerned at the IASB's proposals to finalize each chapter of the framework independently of the others so that some of the earlier chapters will be completed a long time in advance of the rest of the framework. There could be a number of years between the finalization of the earlier chapters and some and some of the later parts of the even being discussed. ASB therefore recommends that the IASB does not finalize any section of the framework until all parts are ready to be finalized.	DRSC generally takes the view that a framework should be the conceptual foundation not only for financial statements, but also for other means of financial reporting, e.g. the management commentary. However, it is necessary to define the term 'financial reporting' before widening the scope. As 'financial reporting; will be discussed and defined in a later phase of the project, DRSC feels unable to conclusively assess at this stage whether the framework's scope should be set as 'financial reporting' or 'financial statements'.

Comment Letter	USA			International Accounting Organization
	American Accounting Association (CL 99)	American Institute of Certified Public Accountants (AICPA) (CL 109)	Accounting Standards Executive Committee of the American Institute of Certified Public Accountants (AcSEC) (CL 129)	Association of International Accountants (CL 61)
(1) Entity Perspective	Agree that the entity's financial reporting should be prepared from the perspective of the entity. Capital providers consider various issues when deciding whether to allocate resources to an entity. A key issue for equity investors is determining the value of the entity. Using the discounted cash flow model discussed in many finance textbooks to value an entity, an entity's expected unlevered free cash flows are discounted at the entity's weighted average cost of capital. The weighted average cost of capitals equals the product of the proportion of debt to assets and the after-tax expected return on debt plus the product of the proportion of equity to assets and the expected return on equity. The value of the entity's debt is then subtracted from the entity's total value to determine the value of equity. Thus, to value the entity from the perspective of equity investors necessitates determining the value of the entity's debt. It follows that satisfying the information needs of the providers of equity financing requires satisfying the information needs of the providers of debt financing, or the information of other claimants. Therefore, it is concluded that adopting the entity perspective seems to best satisfy the information needs of all capital providers.	Technical Issues Committee (TIC) supports the boards' conclusion.	Agree with the Boards' conclusion and basis for it.	Yes, AIA accepts the focus on the entity perspective. This perspective increases "generality" (and incidentally is consistent with the logical basis of the balance sheet and the duality principle).
(2) Present and Potential Capital Providers as the Primary Use Group	1. Agree that present and potential capital providers should be identified as the primary user groups. 2. However, there might be circumstances in which the information needs of the different constituencies might conflict, and in those circumstances, the information needs of existing common shareholders should dominate those of prospective common shareholder and of other claimants. 3. It should be recognized that the providers of equity capital often do not have the same contractual ability to demand information as providers of debt capital. Thus, the committee recommends that the boards work to ensure that the information needs of providers of equity capital are satisfied.	Technical Issues Committee (TIC) supports the boards' conclusion.	Agree with the Boards' conclusion and basis for it.	AIA accept the emphasis on this primary user group, and urge the Boards to recognize the implications for what the regulations issued the Boards are not useful for.

2075

| Comment Letter | USA | | | International Accounting Organization |
	American Accounting Association (CL 99)	American Institute of Certified Public Accountants (AICPA) (CL 109)	Accounting Standards Executive Committee of the American Institute of Certified Public Accountants (AcSEC) (CL 129)	Association of International Accountants (CL 61)
(3) Broad Decision Goals	1. Agree that the objective of financial reporting should be broad enough to encompass all of the decisions that equity investors, lenders, and other creditors make in their capacity as capital providers. Because the ED did not specify theses users' decision-making models, however, it is unclear whether the subsequent discussion in OB9 through OB12 sufficiently outlines the types of information that would meet these objectives. 2. Further, to the extent that different user groups have heterogeneous information needs as discussed in OB6, outlining the models that generate their different information needs is expected to give the boards and reporting entities greater insight into informational needs of financial report users.	Technical Issues Committee (TIC) supports the boards' conclusion.	Agree with the Boards' conclusion and basis for it.	AIA accepts the proposed objective and again urge the Boards to fully recognize the negative implications.
(4) Other comments	Agree that the objective of financial reporting should be broad enough to encompass all of the decision s that equity investors, lenders, and other creditors make in their capacity as capital providers, including resource allocation decisions as well as decisions made to protect and enhance their investments. However, it is unclear whether the subsequent discussion in OB9 and OB12 sufficiently outlines the types of information that would meet the objectives. AAA argues that thoroughly outlining capital providers' decision-making models could help assess their information needs. The committee's recommendation that the board examine the relation between decision-makes, their decisions, ad accounting information is not new: see, for instance, Devine (1960) and Bruns (1968)	TIC believes requirements for management explanations should be limited to those that enhance transparency for historical transactions and should not include footnote disclosure of forward-looking information or subjective factors underlying the entity's performance.	AcSEC believes that not-for profit organizations (NPOs) should be included in the scope of the project. Excluding NPO from the initial scope of the project, and then later considering the applicability of the conclusions to NPOs may result in different, and less appropriate, NPO GAAP than would exist if NPOs were considered in the initial phase of the project. If the boards agree wit this suggestion, resource providers should also be considered primary users for general purpose financial reporting.	

AN INTERNATIONAL INSTITUTIONAL COMPARATIVE ANALYSIS OF THE CHINESE APPROACH TO ACCOUNTING FOR BUSINESS COMBINATIONS

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Abstract

In 2006, the China Accounting Standards Committee (CASC) issued its Statement No. 20, which permits both the purchase and pooling of interests (or merger) method of accounting for business combinations. The decision of the CASC in Statement No. 20 stands in contrast to the decisions taken by the US Financial Accounting Standards Board (FASB) and the International Accounting Standards Board (IASB) which both eliminated the pooling of interests method. As a result of the issuance of CASC 20, along with similar pronouncements by the Japanese standard setters and other standards setting bodies, the goal of harmonizing international accounting standards has been faced with a lack of convergence in the area of accounting for business combinations. In this paper we examine the reasons for this lack of convergence in order to develop a reconciled framework. In particular, the Chinese standards setters have sought to develop an approach to accounting for business combinations which distinguishes between instances where the combining entities are under "common control" or not under common control. Using a relatively narrow definition of common control, both the FASB and the IASB have excluded business combinations among entities under common control from the scope of their respective pronouncements. The purpose of this paper is to analyze the reasons for the distinctly different approach taken by the Chinese accounting standards setters by comparing the provisions of FASB 141, IFRS 3 and CASC 20. Our analysis will show that the technical differences between the standards are based on different understandings of the underlying economics of business combinations (Anthony, 1987), which leads in turn to different representations of the combination process. We believe that a forthright recognition of these differences may lead to a reconsideration of the pooling of interests and merger methods in a new comprehensive framework.

Key words: business combinations, mergers and acquisitions, purchase method, pooling of interests method, international accounting convergence

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American Accounting Association Annual Meeting, Chicago IL - USA, August 8, 2007 - http://aaahq.org/AM2007/menu.htm

Critical Perspectives on Accounting (CPA) Conference 2008, New York - USA, 25 April 2008 - http://www.baruch.edu/news/critical_perspectives_2008.htm

20th Asian Pacific Conference (APC) on international accounting issues, Paris - France, 11 November 2008 http://www.apconference.org/

INTRODUCTION

Recently, the FASB and the IASB have been actively working towards international harmonization and convergence of financial accounting standards. However, in the area of accounting for business combinations, international convergence has not yet been fully achieved. The consensus position of the FASB and the IASB prior to 2007 with respect to accounting for business combinations was that all business combinations ought to be accounted for using the purchase method[372]. However, the choice of the purchase method and the related treatment of goodwill, have prompted a certain amount of resistance. Strong objections to the FASB-IASB approach to business combinations exist, even within the United States and Europe (including the United Kingdom), and on the part of various national standards setting bodies.

For example, the French accounting standards setters (CRC) rejected the non-amortization of acquisition goodwill in two decisions (No. 2005-9 and 2005-10), issued in November 2005; these decisions were applicable to enterprises that not required to follow international standards, including individual companies and non-listed corporate groups[373]. The Japanese accounting standards setters also manifested their dissatisfaction with the purchase method in several comment letters issued in 2001, 2003, and 2005. The Japanese standards setters allow the pooling of interest method in their national standards, and they require amortization of acquisition goodwill. The Chinese, Japanese and Korean standards setting bodies have joined their efforts in an initiative which contemplates the continued use of pooling under certain circumstances. The German Accounting Standards Committee (GASC) states its disagreement with

some fundamental principles laid out in the objective of ED IFRS3amend and [does]

have major concerns about the main features of this draft. […] It seems that the ED is

a further step on the way to introduce the full Fair Value model without having a

proper discussion of the future accounting model in general. [The GASC does]

understand that the FASB has agreed upon the full fair value model as the relevant

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[372] The purchase method necessitates revaluation of the net assets of the acquired company to fair values and recognition of acquisition goodwill, which is not amortized, but tested annually for impairment.
[373] See also the comment letter by the CNC, cf. IASB (2006: CL No. 146).

future model. The IASB, however, has not (yet) and has delayed this discussion since 2001, nevertheless the IASB follows this route. [The GASC does] doubt whether the further expansion of the fair value model was truly demanded by the IASB's constituents including investors and financial analysts and whether information usefulness is truly improved. […] Additionally, [The GASC does] not appreciate delaying further the research on the following issues of the project "Business Combinations II": the possible application for fresh start accounting and the accounting for business combinations involving entities under common control (IASB, 2006: CL No. 121, p. 1-2).

Furthermore, various respondents to exposure drafts issued by FASB and IASB have indicated their preference for a "net asset approach", which is a variant of the pooling method. For example, American Community Bankers, a lobbying organization for credit unions, stated:

"ACB maintains the position that the use of acquisition accounting, as described in the ED, is inappropriate for mutual combinations and will result in arbitrary and costly revaluations, and financial statements that will not truly reflect the essence of the underlying combination transaction. We are not advocating the maintenance of pooling-of-interests, rather we believe that FASB should require [mutual savings banks] to use a net asset value approach, or [a] similar variation of acquisition accounting, using estimations of the fair market values of assets and liabilities assumed" (IASB, 2006: CL No. 96, p. 7).

Interestingly, both the FASB and the IASB have recently recognized these resistant voices, but in a somewhat puzzling and implicit manner. Certain revisions to previously existing standards (FASB 141r, IFRS 3r, IAS 27r) as well as a newly issued standard (FASB 160) appear to reintroduce pooling as an exception to the purchase method. The exception is found in the

wording of several paragraphs in the revisions, and in some newly issued standards not directly related to business combinations, without seeking a reconsideration of the overall framework of accounting for business combinations. We believe that this approach based on scope exceptions adopted in the revised standards may lead to some confusion among preparers and users by effectively implying that "all horses are black, but some horses are white unicorns which are not horses". This confusion actually occurs at the very basis of FAS 141, especially on "scope exceptions". The former version of this standard stated:

This statement states that the term *business combination* excludes transfers of net

assets or exchanges of shares between entities under common control (FAS141,

D11).

Whilst it presently states:

This statement does not apply to combinations between entities or businesses under

common control (FAS141r, D8).

In the former version, operations that are usually understood as a type of business combination are excluded by the definition and viewpoint adopted by the standard, whilst, in the revised version, a whole category of operations now called "business combinations" is again excluded from the scope of the standard that is explicitly devoted to the accounting of "business combinations".

In order to respond to this impasse, this paper seeks to develop a reconsideration of the overall framework of accounting for business combinations based on a forthright discussion of the reintroduction of pooling as an allowable method of accounting for business combinations in certain cases. This discussion aims to take into consideration in a serious way the perspectives of the resistant parties, and it will especially draw upon the Chinese position. Business combinations constitute a critical issue in financial accounting regulation and practice, and the current treatment by scope exceptions based on multiplying the definitions of the underlying operations appears to be limited and hazardous. Instead, a more comprehensive framework ought to be developed to accommodate different kinds of combinations and appropriate methods of reference in a thoughtful way.

In particular, we argue that the positions of the national accounting standards setters which continue to allow the pooling of interests method may be based on different understandings of the underlying economics of business combinations as compared with the understandings contained in the FASB and IASB pronouncements. For example, the Accounting Standards Board of Japan (ASBJ) argued in its comment letter (2005, p. 5 and note 1):

"It seems that the IASB's proposed approach views business combinations as transactions similar to financial investments. In our view, assets are classified into financial investments and non-financial (business) investments according to the purpose of the investment. Non-financial investments are investments aimed at obtaining results through operating the business, and financial investments are investments aimed at obtaining gains from changes in the market price. We view business combinations as a form of non-financial investment."

In a similar manner, the Chinese accounting standards setting body (CASC) continues to allow the pooling of interests method when there is "common control" among the combining businesses, which is a significant factor in the industrial reorganization that is currently taking place in China[374].

The new comprehensive framework of accounting for business combinations ought to be capable of comprehending the different understandings in a coherent way.

Our methodology will consist in delineating the reasoning underlying the various standards using a common framework of analysis. We will analyze the reasons for the lack of international convergence by comparing the provisions of FASB 141, IFRS 3 and CASC 20. Since the FASB and IASB pronouncements are still being revised, we will pay special attention to the respective changes through 2006. The year 2006 was an important turning point in accounting for business combinations, and ultimately it may represent the greatest extent of divergence among the different perspectives.

This comparative methodology will allow an explication of the similarities and differences among the standards, and it will clarify the understandings of the underlying economics of

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[374] Using a restrictive definition of control, both the FASB and the IASB have excluded business combinations among entities under common control from the scope of their respective pronouncements.

business combination. Our comparative analysis will show that the technical differences among the standards are based on different understandings of the underlying economics, thus leading to different representations of the combination process (Anthony, 1987). We believe our analysis will lead to a better comprehension of the standards, enhance comparability among the standards, and facilitate the process of international accounting harmonization. We believe that a forthright recognition of the differences among the standards could lead to a reconsideration of the pooling of interests method in a more comprehensive framework based on a broader perspective.

The remainder of this paper is organized as follows. The next section discusses CASC 20 and the distinctly different understanding of business combinations adopted by the Chinese accounting regulatory bodies. The Chinese distinctive way is presented by analyzing both accounting regulation (the standard and its authoritative interpretation), and the reorganization of the TCL Group, one of China's largest companies. The third section situates the Chinese position in a comparative analysis with the FASB and IASB pronouncements, taking 2006 as a year of reference, but also considering the revised pronouncements issued in 2007. The fourth section further refines this analysis by delving into the leading position of the FASB on the matter. The fifth section will sum up the constructive critique of the current situation and presents a new comprehensive framework that might respond to the current impasse. In particular, it offers some recommendations for improving accounting for business combinations by summarizing the main arguments of the paper and situating the arguments within the ongoing process of accounting standards setting and accounting regulation.

ACCOUNTING FOR BUSINESS COMBINATIONS IN CHINA
Background

The rapid rate of economic growth in China has caused a significant amount of change in accounting regulation (see Biondi-Zhang 2007 for further details). This change has been affected by: (i) reorganizations among state enterprises, (ii) expansion of private business activities, and (iii) a more welcoming attitude towards foreign investment and international business relationships. Increasing economic development has led to greater exposure by Chinese enterprises to foreign accounting practices, and it has created a need for new accounting practices to account for new modes of economic activity (Scapens and Hao 1995; Blake and Gao 1995 eds.). Among the issues addressed by the recent accounting reforms are:

accounting for consolidated entities, equity accounting, accounting for paid-in capital, fixed asset and depreciation accounting, intangible assets and goodwill, taxes and profit allocations. The case of business combinations is one of the more important issues, and it deserves special attention.

The Chinese Standard on Accounting for Business Combinations

CASC 20 was one of the new standards adopted by the accounting reform of 2006 (see Ernst & Young 2006 for an English summary; Chen, Sun, and Wang 2002). CASC 20 defines a business combination as "the bringing together of separate entities into one reporting entity". Two methods are permitted depending on the degree of common control:

- For business combinations involving entities under common control, the pooling of interests method must be applied;

- For business combinations involving entities not under common control, the purchase method must be applied.

In the first instance, a business combination would be recorded using the book values of the combining companies and no goodwill would be recognized. In the second case, the business combination would be accounted for based on the fair values of the net assets acquired, and goodwill would be recognized, subject to impairment tests, however the goodwill would not be amortized.

CASC 20 actually is a brief standard which provides no basis of conclusions for the approach chosen. In fact, since its establishment in October 1998, the China Accounting Standards Committee ("CASC") [375] has been dedicated to provide support on the development of Chinese accounting standards under the Ministry of Finance ("MOF"). The aim of the Committee is to provide advices and recommendations on setting and improving Chinese accounting standards. CASC finally is the advisory body for setting Chinese accounting standards that are legally established by the MOF. Following the CASC 20 (§5) and the interpretation of this standard offered by the Accounting Department of the MOF (AD MOF 2007, p. 292-293), a business combination under common control is defined as follows: "The combining enterprises are ultimately controlled by the same party or parties before and after the combination, and

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[375] See the CASC web site: <http://extranet.casc.gov.cn/internet/internet/en/ZZWJJ/jigoujianjie.html>.

control is not transitory". The AD MOF offered the following authoritative interpretive guidance together with this definition:

1. The party which can carry out the ultimate control over the combining enterprises before and after the combination is usually the mother company of an enterprise group;

2. The parties which can carry out the ultimate control over the combining enterprises before and after the combination are usually two, or more than two, legal persons or other organizations which demonstrate the same viewpoint or position when voting on the invested entities' productive and operational activities. In effecting the combination, these legal persons may intend to enlarge their voting shares in the invested enterprises, or strengthen the control status of certain investors over the invested enterprises, according to an existing agreement among investors;

3. The combining enterprises were controlled by the ultimate controller for more than one year before the date of combination, and the reporting entity after the combination will be controlled by the same ultimate controller for more than one year.

Thus, according to CASC 20 and the authoritative interpretation offered by AD MOF, business combinations are considered to be reorganizations among ongoing economic entities, rather than capital market transactions. In particular, the presence or absence of "common control" is related to the structure of the continued relationship between the enterprise entities involved, and this criterion decides about the application of two different accounting methods, pooling (merger) of purchase (acquisition). This criterion especially distinguishes between combinations that are effected among related entities, and combinations that actually are the take-over of one entity on another unrelated entity.

According to Biondi and Zhang (2007), this Chinese perspective on business combinations may be explained in part by taking into account the massive industrial development that is taking place in China, and also on a "dynamic accounting" perspective which leading accounting theorists and Chinese regulatory authorities may wish to encourage (Aiken, Lu, and Ji 1995; Liu and Turley 1995; Liu and Eddie 1995; Xiao and Pan 1995). The following case illustrates the Chinese perspective.

The Reorganization of the TCL Group

In China, state-owned enterprises are often controlled by a specific governmental agency (xingzheng zhuguan bumen), colloquially known as the 'mother company' (mu gongsi). "Each state-owned entity typically owes a subsidiary's duty of loyalty to a number of administrative units" (Ruskola 2000). The mother company may list its most profitable subsidiaries on the stock exchange, while continuing to be the controlling shareholder. Other less profitable

subsidiaries may continue to be fully owned by the mother company. In 2004, this kind of state-owned or state-controlled enterprises accounted for 42.4% of the value-added by industry and 35.2% of the gross industrial output, while the private sector accounted for only 15.1% and 16.5%, respectively, and foreign owned enterprises (including those with ownership from Hong Kong, Macao and Taiwan) accounted for 27.8 and 31.4%.[3] The following case study illustrates the application of CASC 20.

In 2003, TCL Group ("Parent") and TCL Communication Equipment Co. ("Subsidiary") entered into an agreement whereby the state-owned Parent merged with its publicly traded Subsidiary. The Subsidiary was the first component of TCL Group to be listed on Shenzhen Stock Exchange in 1993. Huizhou Investments, a government owned, limited-liability company, located in the city of Huizhou, Guangdong Province (southern China), was the majority shareholder of TCL Group. Huizou Investments was in turn controlled by the city of Huizhou, where TCL group is headquartered. Huizhou Investments is a government agency created to foster the economic development of Guandong province. In 2003, TCL Group owned 106,656,000 non-circulating shares of TCL Communication Equipment Co., which represented 56.7% of the shareholders' equity of the Subsidiary. The other shares of the Subsidiary were traded on the Shenzen stock exchange. On 30 September 2003, TCL Group (the Parent) announced that it was going to combine with its Subsidiary through an exchange of shares. After the combination, the joint entity was listed on the Shenzhen Stock Exchange. The 81,452,800 circulating shares of the Subsidiary were exchanged for 404,395,944 shares of the Parent at an exchange price of 21.15 RMB, an exchange ratio of 4.965. The combination was completed on 7 January 2004 and the TCL Group was listed on 30 January 2004.

Pursuant to FASB 141 prior to the recent proposed revision, the reorganization of the TLC Group would have been accounted for as "an acquisition of a minority interest" (FAS141, A6 (a)); consequently the purchase method would have been required to be used (FAS 141, §14). Pursuant to IFRS 3 before the recent revision, the purchase method would also have been used, because pooling was not permitted by IFRS 3.

In contrast, following CASC 20, the pooling of interests method was used to account for the TCL Group reorganization, since the combination occurs under common control between two related enterprises. The press release issued to describe the transaction included the following reasons why the pooling method was used. Firstly, all or most of the shares of the combining entities were exchanged. Second, the shareholders of the combining entities became the shareholders of the combined entity. Third, the shareholders of the combining entities

collectively assumed all of the risks of the combined entity. Fourth, there were no resources flowing from the combining entities to other parties. Fifth, according to the projected exchange ratio, the equity owned by the controlling party (Huizhou Investments) did not change before and after the combination. For these reasons, the pooling of interests method was considered to produce a better representation of the underlying economics of the combination process.

Is the Chinese way to accounting for this business combination at least understandable? Let us explore further the potential impact on the economic representation provided by accounting numbers.

In the annual report for 2003 (see Table 1), the consolidated net income of TCL Group was reported to be 570.57 million *RMB*, which included 145.18 million *RMB* of the net income of TCL Communication Equipment Co. (the Subsidiary) from January to June[376]. The shareholders' equity was 2,263.38 million *RMB*, so the return on equity (ROE) was 25.21% (see Table 1). If TCL Group had applied the purchase method, these performance ratios would have been reduced. At the date of the combination, the book value per share of TCL Communication Equipment Co. was 3.07 *RMB,* while the exchange price was 21.15 *RMB*. Thus, the 'computed goodwill'[377] would have been 1,473 million *RMB* based on combining only the circulating shares without recognizing any control premium. This goodwill would have added 1,473 million *RMB* to the shareholders' equity. If the purchase method had been used, the net income of the Subsidiary before the combination date would not be recognized in the consolidated income statement, and the goodwill produced by the combination would not be amortized. As a result, the net income of TCL Group would be reduced by 145.18 million *RMB*, from 570.57 million *RMB* to 425.39 million *RMB*, while the shareholders' equity would be increased from 2,263.38 million *RMB* to 3,736.38 million *RMB*. Therefore, the return on equity (ROE) would be reduced from 25.21% to 11.39%.[378]

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[376] The record date for recognition of the business combination was 30 June 2003, even though the combination was effected several months later.

[377] The calculation of the 'computed goodwill' is as follows: (21.15-3.07) $\times$ 81452800 = 1,472.67 million *RMB*. Because of the limited disclosure of data, the fair values of TCL Communication Equipment Co. cannot be utilized; this is why the 'computed goodwill' is used here instead of the actual goodwill.

[378] The above calculation of the 'computed goodwill' takes into account only the circulating part of the shares. If the TCL Group (the parent) did not hold the original 56.7% shares of TCL Communication Equipment Co (the Subsidiary), and if all the shares of TCL Communication Equipment Co. were combined at the same exchange ratio, the 'computed goodwill' would be of 3,401 million RMB. In that case, the net income of TCL Group in 2003 would be still 425.39 million RMB, but the equity would be raised from 2,263.38 million RMB to 5,664.38 million RMB; thus, the return on net assets would be reduced from 25.21% to 7.51%.

Furthermore, the solvency ratio would have decreased significantly (from 4.51 to 2.73) as a result of an increase in shareholders' equity, even though the liabilities of the Group would not change as a result of the combination. In fact, we are unable to account for the re-measurement of liabilities of the target to their fair values, as required by purchase accounting. This re-measurement may lead to reinforce the decrease of the solvency ratio of the enterprise group.

*** Insert Table 1 here ***

Finally, if the purchase method had been applied to the TCL Group reorganization there would have been a significant negative impact on the consolidated financial statements. The managers might not have proceeded with the combination, notwithstanding the important industrial and productive reasons for undertaking the combination. In addition, the negative effect on the performance ratios might have modified the initial public offering (IPO) price of TCL Group shares, and this may have affected the share price, whilst the overall effect on debt exposure and service might blurry the information on and representation of the underlying transaction. In the actual recording of the transaction, goodwill was not recognized. Therefore, the performance ratios reflected in the consolidated financial statements did not deviate substantially from those of prior years. Arguably this accounting approach produced a more proper representation the underlying economics of the combination process.

This Chinese understanding might be seen as an alternative type of capitalism or as a representation of an economic transaction which is more appropriate to the Chinese context (Jackson and Miyajima 2007; Biondi and Zhang 2007). As the case study of the TLC Group reorganization suggests, business combinations in China often occur among related entities (Huang et al. 2004: Pan 2002). This implies that the details of the business combination are determined by the same controlling parties, and ownership control does not actually change hands, even though material aspects of the overall enterprise and related minority interests may be affected by that operation. Some Chinese business combinations factually are not takeovers, but mergers instead, which, in turn, are congruent with the accounting representation provided by the pooling of interest approach. In this context, the use of pooling is sound not only from an accounting standpoint, it also reduces transaction costs. Furthermore, in a setting where the capital markets are often less than perfect (or absent) and "fair values" may not be reliable, the pooling of interests method appears to be the most appropriate measurement approach of accounting for business combinations. It is important to remember that many Chinese

corporations are not listed in capital markets[379], and, even in the case of listed corporations, a large portion of the shares is not circulating[380]. As of January 2007, of the total issued shares, the negotiable part was only 38.1% (based on the CSRC monthly report, http://www.csrc.gov.cn/).

Anyway, the Chinese understanding of the underlying economics of business combinations is different from the understanding contained in the FASB and IASB pronouncements through 2006. Interestingly, pursuant to the revisions of FASB 141, IFRS 3 and the new FASB 160, issued in 2007, the TCL combination would have been treated as an "equity transaction" and not as an acquisition. Therefore, the pooling method, which was eliminated by previous standards, seems to have been re-introduced, at least in some respects. In particular, the "equity transaction" method does not account for goodwill and does exclude any impact on the income statement. This reintroduction involves an implicit distinction between combinations where a change of control takes place, and combinations where there is no change of control. This distinction does not correspond exactly to the Chinese perspective and criterion, as the following section shall disentangle.

COMPARATIVE ANALYSIS

This section provides a comparative analysis of the key provisions of FASB 141, IFRS 3, and CASC 20. The key provisions of the pronouncements are summarized in Table 2. The provisions are divided into the following categories: (*i*) definition of a business combination; (*ii*) exclusions from the scope of the standard; (*iii*) key concept for its application; (*iv*) treatment for acquisition goodwill; (*v*) valuation of identifiable assets, liabilities and contingent liabilities; and (vi) the accounting method of reference.

Insert Table 2

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[379] In 2005, the number of listed companies on the Shanghai and Shenzhen Stock Exchanges was 1 381 (834 and 547, respectively), while the number of large and medium-sized industrial enterprises (excluding construction and financial intermediation sectors) was 29 774.
[380] Holderness (2007) provides a relevant critique of dispersed shareholding in the US share market.

With respect to the definition of a business combination (point *i*), the FASB stated that the necessary pre-condition for the recognition of a business combination was a change of ownership control:

A business combination is a transaction or other event in which an acquirer obtains control of one or more businesses (FAS 141r, 3 (e))

This statement applies to all transactions or other events in which an entity (the acquirer) obtains control of one or more businesses (the acquiree) [omissis] (FAS 141r, p. i)

Control has the meaning of controlling financial interest in paragraph 2 of Accounting Research Bulletin No 51, Consolidated Financial Statements, as amended. (FAS 141r, 3 (b))

The usual condition for a controlling financial interest is ownership of a majority voting interest, and, therefore, as a general rule ownership by one entity~~company~~, directly or indirectly, of more than 50~~over fifty per cent~~ of the outstanding voting shares of another entity~~company~~ is a condition pointing toward consolidation. However, there are exceptions to this general rule. A majority-owned entity~~subsidiary~~ shall not be consolidated if control does not rest with the majority owner (~~as~~, for instance, if the entity~~subsidiary~~ is in legal reorganization or in bankruptcy or operates under foreign exchange restrictions, controls, or other governmentally imposed uncertainties so severe that they cast significant doubt on the parent's ability to control the

entity~~subsidiary~~). (FAS 160, Appendix A – "ARB 51, as amended by this statement",

§2).

As the previous quotations prove, according to the FASB, a business combination implies obtaining control, which is based on a "controlling financial interest" that, in turn, is mainly based on the "ownership of a majority voting rights". In contrast, the IASB developed a broader definition of a business combination which did not specifically mention a change of ownership control (IFRS3, BC6-BC9, BC 12). However, both IFRS 3 (§19) – now included, with adjustments, in IAS 27r (§13), the latter being the main reference for identifying the acquirer under IFRS 3 (§7) - insist on the majority of potential and actual voting rights as main guideline:[381]

> Control is presumed to exist when the parent owns, directly or indirectly through
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> subsidiaries, more than half of the voting power of an entity unless, in exceptional
>
> circumstances, it can be clearly demonstrated that such ownership does not
>
> constitute control. Control also exists when the parent owns half or less of the voting
>
> power of an entity when there is [note: See also SIC-12 Consolidation—Special
>
> Purpose Entities]:
>
> > (a) power over more than half of the voting rights by virtue of an agreement with other investors;
> > (b) power to govern the financial and operating policies of the entity under a statute or an agreement;
> > (c) power to appoint or remove the majority of the members of the board of directors or equivalent governing body and control of the entity is by that board or body; or
> > (d) power to cast the majority of votes at meetings of the board of directors or equivalent governing body and control of the entity is by that board or body.

> (IAS 27r, §13).

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[381] The analysis of the whole section (IAS 27r, §12 to §17) does not change this conclusion.

All the powers listed above are formal in nature: powers under (a) and (b) are legal; the power under (b) is contractual, and the power under (c) is institutional. Some substantial powers based on economic, financial, commercial, or organizational factors (formerly mentioned by IFRS3, 20) are now relegated in the application guidance (IFRS 3r, B14-B18). However, following the factors mentioned by the application guidance, an overwhelming problem of clear distinction between business combinations that are acquisitions and combinations that are not factually occurs.

The difference in the definitions of "control" has been maintained in the new releases by FASB and IASB. While FASB 141r mentions the words "controlling financial interest", the revised IFRS 3r defines control as "the power to govern the financial and operating policies of an entity so as to obtain benefits from its activities" (Appendix A). Nevertheless, both the FASB and the IASB excluded combinations among entities under common control from the scope of their pronouncements (point *ii*). In FASB 141r, this exclusion is continued, but it is based on a relatively narrow definition of "common control" (FASB141r, par.D1-D18; FAS 141, D11-D13). Neither an explicit understanding nor a thoughtful definition of common control is provided. The exclusion is based on a spare list of examples of combinations that are scoped out as exceptions. Most examples did address cases of formal changes in the legal relation between parent and subsidiaries, but the standard failed to consider cases where the underlying economics is impacted, either combinations between related entities and/or effected within corporate groups, whatever outstanding minority interests do change or not. In fact, during the revision of FAS 141, the previous FAS 141 (§14, D13) that applied the purchase method to "the acquisition of all or a part of the noncontrolling equity interest in a subsidiary" has merely disappeared, but the underlying issue is left in a vacuum indeed.

IFRS 3 shared this exclusion of combinations under common control, but the revision (IFRS 3r) does not mention the issue; it postpones discussion on this matter to a further project that is scheduled on mid-2008. No clear-cut definition of common control is provided by these standards.

With respect to point's *iii*, *iv*, *v* and *vi*, the FASB and IASB pronouncements are essentially the same. The pronouncements consider business combinations to be acquisitions, i.e. purchase transactions in which the consideration paid is based on arm's length bargaining between unrelated entities: essentially, a (efficient) market exchange. This leads to goodwill

being viewed as a permanent intangible asset that is recognized, but not amortized, but tested thereafter for impairment. An overall continuity is claimed through the different revisions of the respective standards, as the FASB explicitly states:

> This Statement replaces FASB Statement No. 141, Business Combinations. This
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> Statement retains the fundamental requirements in Statement 141 that the acquisition
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> method of accounting (which Statement 141 called the purchase method) be used for
>
> all business combinations and for an acquirer to be identified for each business
>
> combination. (FAS 141r, summary, i-ii).

In fact, both the FASB and the IASB allude to the existence of types of business combinations different from acquisitions, such as those where there is no consideration given, no change of control, a combination between a parent and subsidiary, or combinations among entities under common control. However, in an apparent desire to concentrate on a single method (i.e. the "purchase method"), these types of combinations were not included in the FASB and IASB pronouncements. In fact, the common wisdom about the purpose of new approach fostered by the FASB and IASB was and still is their joint desire to eliminate the pooling method, and then to extend the application of the purchase method as far as possible, by considering it as synonymous of the underlying economics of the business combination:

> The Boards concluded that having more than one method could be justified only if the
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> alternative method (or methods) could be demonstrated to produce information that is
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> more decision useful and if unambiguous and nonarbitrary boundaries could be
>
> established that unequivocally distinguish when one method is to be applied instead
>
> of another. The Boards also concluded that most business combinations are
>
> acquisitions and, for the reasons discussed in paragraphs B24–B28, that the
>
> acquisition method is the appropriate method for those business combinations (FAS
>
> 141r, B23).

However, the difficulty with the selection a single method is that it appears to imply that purchase accounting should be used for "virtually" all types of business combinations, even for those in which the purchase method and its underlying economics may not to be appropriate. In the recent revisions issued by the FASB and IASB (FASB 141r, IFRS 3r, and FAS 160) there is a possibility of accounting for some combinations as "equity transactions". In IFRS 3r, the pronouncement goes further by permitting recognition of the "proportionate share of the acquiree's identifiable net assets". Consequently, the efforts of the FASB and IASB to allow only one method of accounting for business combinations appears to have been somewhat compromised by allowing variations of the pooling method in certain circumstances. For example, pursuant to the new FASB 160, released together the revised FASB 141r, a combination between a parent and a subsidiary - such as in the TCL case- would be treated as an equity transaction, i.e., as "investments by owners and distributions to owners acting in their capacity as owners" (par 33). FASB 160 (p. ii-iii) justifies this change as follows:

> Before this Statement was issued, decreases in a parent's ownership interest in a subsidiary could be accounted for in one of two ways: as equity transactions or as transactions with gain or loss recognition in the income statement. A parent's acquisition of noncontrolling ownership interests in a subsidiary was previously accounted for by the purchase method. This Statement simplifies accounting standards by establishing a single method of accounting for these economically similar transactions. Eliminating the requirement to apply purchase accounting to a parent's acquisition of noncontrolling ownership interests in a subsidiary also reduces the parent's costs because it eliminates the need to value the assets and liabilities of the subsidiary on the date that each additional interest is acquired.

In the same spirit, pursuant to IFRS 3r, the acquiring company can measure the noncontrolling interest in the acquiree either at fair value or at its proportionate share of the acquiree's identifiable net assets (paragraph 19). The pooling method therefore seems to have been reintroduced, at least to a certain extent. This reintroduction actually appears to imply a key criterion that discriminates among acquisitions where control is acquired and other

acquisitions where there is no change of control, but the criterion is not addressed explicitly, and the main change of orientation is scarcely noticed.

In our opinion, the new approach may be confusing. The scope exception to purchase accounting may be deficient from an informational perspective, because it does not show the changes in the different classes of assets and liabilities and the overall impact on the financial position and economic performance of the related entities, consolidated or not. Furthermore, the focus on *change* of control *in terms of financial interests* creates problems with stepwise acquisitions, minority control and forms of control without ownership. More generally speaking, introducing exceptions to accounting pronouncements may offer a temporary solution, but this does not lead to international accounting harmonization, especially in such significant and sensitive matters as business combinations. The preferable solution would be to reconcile different positions in a more comprehensive framework for guidance and interpretation. The following sections will try to open the way to the development of this framework.

THE RATIONALE FOR FASB 141

While both the purchase and pooling of interests methods were permitted for many years under US Generally Accepted Accounting Principles (GAAP), the pooling method was eliminated in 2001 by FASB 141. The merger method, which was similar in many respects to pooling, was permitted by the International Accounting Standards Committee (IASC), but following the issuance of FASB 141, the IASB eliminated the merger method in 2004. In issuing these pronouncements, the FASB and the IASB adopted a quite similar approach to accounting for business combinations. The FASB and IASB pronouncements resulted from numerous meetings between the two standards setting bodies and various joint recommendations issued by a working group representing accounting standards setters from Australia, Canada, New Zealand, the United Kingdom, the IASB, and the FASB (commonly known as the G4+1; see G4+1, 1998).[382] The role of the FASB was central to achieving a consensus in this area of financial accounting.[383]

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[382] The Group met approximately four times a year from April 1993 to January 2001 in order to analyze and discuss financial reporting issues. In January 2001, the Group agreed to disband, because of the start of activities by the newly restructured International Accounting Standards Board. See http://www.acsbcanada.org/index.cfm/ci_id/4345/la_id/1.htm> (December 17, 2006). On the important influence of G4+1 on international accounting convergence, see Street (2005).

[383] As stated by the G4+1 (1998, vii): "The principal author is L. Todd Johnson, senior project manager on the research and technical activities staff of the US Financial Accounting Standards Board. A significant contribution was made by Kimberley R. Petrone, FASB project manager. Other FASB staff members as

FASB 141 was issued as the successor to Accounting Principles Board (APB) Opinion No. 16, *Business Combinations*. APB 16 had been issued during the merger boom of the mid 1960s in order to prevent certain "abuses" associated with the restrictions imposed to the pooling method (CAP 1944; CAP 1953; Wyatt 1963; Rayburn and Powers 1991). Pursuant to APB 16, business combinations were required to be accounted for using either the purchase or the pooling method. The pooling method was mandatory if 12 criteria were simultaneously met; otherwise, the purchase method had to be used.[384] FAS 141 (summary, p. 5-6) provided the following reasons for eliminating the pooling method:

1. *Underlying economics*: Because the 12 criteria of APB 16 did not clearly distinguish between different types of business combinations, similar types of combinations (from an economic perspective) could be accounted for in different ways, thus resulting in different financial statement results;

2. *Comparability*: Financial analysts and other users of financial statements had difficulty comparing the performance of combining entities because different methods of accounting were permitted;

3. *Better information on intangibles*: Users of financial statements have a need for better information about intangible assets because intangibles represent an increasingly significant proportion of the assets acquired in business combinations. While the purchase method recognizes all intangible assets acquired (either separately or as acquisition goodwill), the pooling method does not recognize acquisition goodwill;

4. *Unlevel playing field*: Company managements argued that the differences between the pooling and purchase methods adversely affected competition in the markets for mergers and acquisitions.

The provisions of FASB 141 constituted a distinctly different approach to accounting for business combinations as compared with APB 16. The choice of a single method was based on the belief that "virtually all business combinations are acquisitions" (FAS 141, summary at pp. 5, 7; B19), and therefore, all business combinations ought to be accounted for in accordance with the "values exchanged". The FAS 141 (p. 6-7) argued that the use of the purchase method would improve financial reporting because financial statements would better reflect the underlying economics of the business combination. In particular (*ibid.*):

1. *Underlying economics*: Application of Statement No. 141 produces financial statements that reflect the full investment made in the acquired entity. This is

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well as staff members of the other G4+1 organizations also assisted in the preparation of this Position Paper."

[384] Among the criteria, the most important were: (1) that there had to be an exchange of common shares for common shares (no cash or other consideration) for at least 90% of the shares of the combined company, and (2) that the transaction had to be completed in one step.

because the purchase method records a business combination based on the values exchanged, thus users are provided with information about the total purchase price paid, allowing a more meaningful evaluation of the subsequent performance of that investment;

2. *Comparability*: Because all business combinations must be accounted for in the same way, the purchase method improves the comparability of financial information. Users can evaluate reported financial results on a comparable basis because the assets acquired and the liabilities assumed are recognized and measured in the same way regardless of the type of consideration exchanged;

3. *Better information on intangibles*: The specific criteria for recognition of identifiable intangible assets and acquisition goodwill and the expanded disclosure requirements provide more information about the assets acquired and liabilities assumed. This additional information provides users with a better understanding of the resources acquired and improves their ability to assess future profitability and cash flows;

4. *Unlevel playing field*: Requiring one method of accounting reduces the costs of accounting for business combinations, in particular the costs incurred by entities in positioning themselves to meet the 12 criteria for use of pooling under APB 16.

Statement No. 141 was based on the following understanding of the underlying economics of business combinations:

a) "Virtually all business combinations are acquisitions"; therefore, it is necessary to identify an acquiring company and an acquired company. The focus is on accounting for the change in ownership that is takes place in the acquired company;

b) All business combinations involve a clearly identifiable price;

c) The purchase price is the best evidence of the values exchanged;

d) If the purchase price exceeds the fair values of the net assets acquired, goodwill must be recognized as a permanent asset of the combined company.

e) Acquisition goodwill is not amortized; instead it is tested periodically for impairment.

f) Goodwill is recognized regardless of the extent of ownership acquired; however, a change of ownership control is a pre-condition to the recognition of a business combination;

g) Goodwill is measured by subtracting the fair values of the net assets of the acquired company[385] from the purchase price;

h) For accounting measurement purposes, it is assumed that the operations of the acquired company are discontinued; carryover of retained earnings of the acquired

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[385] Either the assets already recognised by the acquiree and the other assets that the acquiree was unable or prohibited to recognize; in addition, if assets are acquired in groups, the cost of the group must be allocated to the single assets (FAS 141, par 7).

company is not permitted, and the acquired company's earnings during the period preceding the date of the combination are not recognized.

The business combination is then assumed to be a market exchange at a certain market price that is fixed at the coincidence of values exchanged and purchased. In adopting Statement No. 141, the FASB articulated therefore the following arguments:

"The Board noted that in a business combination, the fair value of the asset acquired – the acquired entity – is established through a bargained exchange transaction" (B163).

"Substantially all business combinations are exchange transactions in which each party receives and sacrifices commensurate value" (B187).

"Like other exchange transactions, acquisitions are measured on the basis of the fair values exchanged. In exchange transactions, the fair values of the net assets acquired and the consideration paid are assumed to be equal, absent evidence to the contrary" (FASB 141, paragraph 5).

"Exchange transactions in which the consideration is cash are measured by the amount of cash paid. However, if the consideration given is not in the form of cash, measurement is based on the fair value of the consideration given" (FASB 141, paragraph 6)

It is evident from these arguments that the FASB understood the underlying economics of a business combination as being exemplified by a (efficient) capital market transaction in which the primary consideration paid is cash, the owners of the acquired company are liquidated, the activities of the acquired company are discontinued, and the assets of the acquired company are combined with those of the acquiring company. The purchase method effectively assumes a discontinuity in both (i) the ownership interests and (ii) the activities of the acquired company, as evidenced by the accounting procedure of revaluing the net assets of the acquired company to their fair values and measuring goodwill as the difference between the purchase price and the sum of the fair values of the net assets acquired. The discontinuity of ownership interests (point i) justifies the recourse to fair value valuation of the target, since the acquirer becomes the new owner and needs a fresh start of the target. The discontinuity of the business (point ii) justifies the recourse to a piecemeal liquidation approach, because the single elements of the business are acquired, not the business as a whole. Absent the discontinuity of the business, the target might be valued as a unique financial investment and thus accounting for as a single value to the owner, the acquisition goodwill being still obtained by difference with the purchase price. This discontinuity is explicitly mentioned in paragraph B29 of FAS 141 and repeated by E37 of the revised FAS 141r:

"Under the purchase method, one of the combining entities is viewed as surviving the transaction and is considered to be the acquiring entity. The other combining entities that do not survive the combination as independent entities are considered to be the acquired entities."

"The acquisition~~purchase~~ method is based on the premise that in an ~~purchase~~ acquisition, the acquired entity (Company B) ceases to exist and only the acquiring entity (Company A) survives."

The FASB's pronouncements were therefore based on a particular understanding of the underlying economics of a business combination, an understanding focused on properly representing a capital market transaction where the acquisition price represents the best measure of the values exchanged. The key features of the FASB's understanding are summarized in Table 3 (Purchase Column).

*** Insert Table 3 here ***

However, this understanding does not address virtually all types of business combinations, and, worst, fails to develop a comprehensive approach capable of addressing the whole accounting for the economics of business combinations in a coherent and understandable way. As the column two of the Table 3 testifies, the eliminated pooling approach actually suggests a different family of business combinations. This suggestion may open the way to a broader perspective on the matter.

DISCUSSION AND CRITIQUE

This section takes the arguments of the resistant parties seriously. The Chinese approach to accounting for business combinations will separated from the special context of Chinese industrial development, and utilized instead as a comparative basis for a constructive critique of the FASB and IASB joint approach.

With respect to the underlying economics of business combinations, the problem was and still is primarily related to the representation of a business combination as a capital market transaction among unrelated parties at fair market prices. Relying on this perspective, the FASB and IASB reached the conclusion that "virtually all business combinations are acquisitions" where ownership control of one of the combining entities changes hands. However, as the new releases testify, it is sometimes difficult to determine whether a change of ownership control has actually taken place, for two main reasons. First, ownership control is a matter of degree and factual control may be obtained with less than the majority of legal voting rights. More generally speaking, ownership control may not to be the best criterion for discriminating different types of business combinations. In particular, a number of business practices exist to obtain control without a change of ownership, as IFRS 3 (§11 and §12) and FASB 141 r (49) recognize, and as the seminal work of Berle and Means (1932) insightfully suggested (Biondi et al. 2007 eds.). Furthermore, "a business combination may be structured in a variety of ways for legal, taxation or other reasons" (IFRS 3, §5), even apart from an acquisition of ownership control. Consequently, a choice of accounting methods based on the criterion of a change of ownership control may be contradicted by actual business practices.

The Chinese position presents an alternate framework, based on the notion of "common control" rather than a "change of ownership control". Common control is here a matter of continued relationship among involved entities. Pursuant to the Chinese perspective, the underlying economics of many business combinations reflect a continuity of business activities. This continuity may involve a change in strategies, organizational structures, shareholding interests, or management, but its primary purpose is the enhancement of the ongoing activities of the combining entities. Many business combinations - in China and elsewhere - are reorganizations among related entities, rather than capital market transactions. "Common control" may in fact be the main case rather than the exception, because continuity of the underlying financial and operating activities is expected to occur. Control is therefore a matter of continued "coordination" rather than a change of "ownership control".

When issuing Statement No. 20, the CASC and the MOF did not focus on the representation of a business combination as a capital market transaction. Rather its focus was on the reorganization of the combining economic entities. This perspective is consistent with the entity theory of accounting. While both the FASB and the IASB start with the entity theory, they quickly move to an acquirer's perspective (i.e. proprietorship theory), which views a business combination as a takeover of a target company through an acquisition of ownership control of

the target's shareholders' equity (FASB 1999; IFRS 3, BC50-BC53; G4+1 1998: 6, 11-12).[386] This proprietorship perspective is exemplified by paragraph 39 of FASB 141:

> "The net assets of one entity are transferred to another, which issues its shares in exchange, and that transaction should be accounted for on the same basis that would be used to record an *investment by owners* in the form of cash—that is, on a fair value basis. From the *perspective of the acquired entity's shareholders*, that transaction is an exchange transaction, a sale on their part and a purchase on the part of the surviving entity" (emphasis added).

A proprietorship perspective reflects the viewpoint of the shareholders of the acquiring company who would like to have more information about the values of the accounting elements of the target entity, including previously unrecognized goodwill. However, in order for this information to be relevant and reliable, the fair values of the net assets of the target company, as well as the total consideration paid, must be "fair," (i.e., the whole process must take place in complete and efficient markets). This viewpoint reflects (hostile) takeovers in active financial markets where a controlling part of the shareholders' equity is acquired by one entity which is independent from the target entity. However, as the FASB (1999) has recognized, this viewpoint may be misleading when: (i) a significant premium is paid for the acquired firm above its pre-acquisition market value, (ii) a significant amount of goodwill is recognized, or (iii) the method of payment consists of the acquirer's shares. In particular, this viewpoint scarcely fits the combination of entities which are under common control.[387]

Furthermore, it should be noted that the shareholders of the acquiring entity do not actually acquire the net assets or the shares of the target entity. The underlying economics of a business combination does not involve an "acquisition" but rather a "combination" of previously separate entities. A business combination is therefore a matter of operational continuity rather than a change of ownership interests. Operational continuity involves a coordination of

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[386] According to the new release, including a not fair value measurement at least in some cases, the IASB's position on the matter is perhaps more prudent, but it is not yet fully disclosed or applicable, so any conclusion is provisional.
[387] The measurement problems with the fair value approach are categorically stressed by dissenting comments from national standards setters and various constituents.

operations and activities among entities. If the combining entities are related, and if they share their business activities in some way, then the pooling of interests approach may be more appropriate. Consequently, the CASC and the MOF took a distinctly different view of the underlying economics of business combinations, one which was based on an entity perspective. In a quite similar way, the Japanese accounting regulatory body quoted in the introduction appears to draw upon the economic distinction between the markets and the business firm, and then make an accounting representational distinction between business investments and financial investments. When applied to business combinations, this distinction would imply that combinations made for *business* reasons (seeking for integration and coordination between involved entities) may be understood as mergers and accounted for by a pooling approach, whilst combinations made for *financial* reasons (seeking for acquiring disbanded net assets or a financial rent) will understood as purchases and accounted for by an acquisition approach.

In this way, the position taken by advocates of pooling, including the special viewpoint adopted by Chinese regulatory bodies (CASC and MOF), may be generalized in order to reach a more comprehensive understanding of the accounting and economics of business combinations. In an economic system characterized by competing business entities, a business combination is probably best understood as reorganization between entities whose governing parties want to combine their activities in order to pursue them in an enhanced way. This economic substance does not correspond with the purchase method. Many business combinations occur in a relational economic context, and those combinations are not based on arm's length bargaining in a competitive marketplace. When combinations occur among related entities, or in the absence of efficient capital market transactions, the values exchanged do not reflect the underlying economics of the combination process. In such cases the use of the purchase method leads to recognition of internally generated goodwill (FASC 2004: 60) and the capitalization of uncertain future benefits, as well as a failure to match the amortization of recorded goodwill against future revenues.[388] According to Busse von Colbe (2004: 212), the recognition of the discounted present value of uncertain future benefits may lead to unrealized profits being distributed as dividends. In addition, this accounting recognition can lead to a confused tax basis. In a combination among related economic entities, it is highly unlikely that the recognized goodwill or the "fair values" of the net assets of the combined entity will fairly represent the values implied by the underlying economics. If the pooling of interests method were used instead, the net assets of

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[388] The latter point is emphasized by the minority dissenting opinions of Geoffrey Whittington and Tatsumi Yamada to IFRS 3 (IFRS 3, DO1-DO16).

the combining entities would be accounted for using book values, and the problem of unfair "fair values" would be avoided.

It is important to remember here that, according to Jackson and Miyajima (2007), in 1991-2005, only a small minority of the business combinations in leading economies concerned publicly listed target companies (7,8% in Germany, 14,9% in USA, 9,5% in UK, 23,3% in Japan, 14,4% in France), and this proportion was decreasing, whilst one half were private companies (including in the USA and UK) and one third were subsidiaries (including in USA and UK). According to these statistics, based on the Thomson Deals database, at least one third of the combinations are intra-group reorganizations, whilst one half occurs in a private setting where the representational focus on an (efficient) capital market transaction scarcely applies.

In addition, the alleged relevance for capital market intermediation of the new approach fostered by the FASB and IASB was questioned by several empirical studies. From the informational viewpoint, these studies have concluded that the lack of recognition of acquisition goodwill does not necessarily affect value relevance in capital markets. Hopkins et al. (2000) present evidence suggesting that analysts assign a lower post-acquisition value to a purchase combination in which the parent company records and amortizes an acquisition premium (i.e. goodwill), compared with either a purchase combination in which the parent expenses the entire premium as in-process research and development, or a pooling-of-interest combination. Furthermore, Mintchik (2006) has attempted to disentangle the impact on earnings forecast errors by eliminating pooling from accounting for goodwill and other disclosures. She provides evidence that pooling does not create additional problems to accurate forecasting, while at the same time the improved disclosure is beneficial. The pooling approach may therefore be preferred, even by capital market participants.[389]

The arguments advanced by the FASB and IASB in favor of a single method of accounting for business combinations appear to be questionable when considered in light of this comprehensive perspective. The FASB's four arguments mentioned above (underlying economics, comparability, better information on intangibles, unlevel playing field) were largely based on an assumed independence of the accounting method from the type of consideration used in undertaking the combination, and on the assumption that all business combinations are acquisitions. More generally speaking, both the FASB and IASB argue for purchase accounting

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[389] Pursuant to efficient market theory, market prices are the best representation of value, and accounting must follow them. However, the accounting information received by the capital markets is based on the earnings of the firm generated mainly in the past (Biondi 2005). This information plays an important role by providing a common knowledge base available for subjective valuation and decision-making (Sunder 2001). This is a particular type of information that complements and does not follow the information provided by the price system (Biondi 2003).

because of its presumed value relevance for capital market participants because the consideration paid is the best measure of the value of the net assets and the goodwill acquired measured at the acquisition date.

Regarding the underlying economics argument (i.e. that all business combinations are acquisitions), the FASB essentially ignored the existence of mergers and focused exclusively on acquisitions, even though both mergers and acquisitions exist in actual economic settings. Many respondents to the FASB and IASB exposure drafts argued that mergers should be accounted for differently from acquisitions because of the differences in the underlying economics (FASB 141, B36). According to Ramanna (2007; table 4 at p. 49), a majority of firms commenting on the FASB 141 exposure draft wanted to maintain the pooling method. Paragraph B41 of FASB 141 argued that all business combinations are effectively acquisitions by stating that shares could be issued for cash and then the cash could be used to effect the combination, with the end result being the same as if shares had been used to effect the combination. However, when cash is used, the acquiring company provides the cash, and the former shareholders of the target company are liquidated. When a combination is effected through an exchange of shares, the acquiring company does not provide cash, and the former shareholders of the target become shareholders of the combined entity. Consequently, the two types of transactions are not the same either in their underlying economics or their results.

With respect to the discontinuity that is effectively assumed when using the purchase method, the FASB itself recognized that there is continuity in a merger (B40). In addition, the Board recognized that "all business combinations entail some bringing together of commercial strategies" (B40). These observations contradict the discontinuity assumption of the purchase method. Furthermore, the elimination of the pooling method may not be sound from an empirical perspective because it is possible to identify business combinations that are not acquisitions (B42), but mergers instead.

Regarding the comparability argument, if the existence of different kinds of business combinations remains an open question, comparability becomes effectively a claim for accounting uniformity, which is not necessarily justifiable if there are different kinds of business combinations in actual practice.[390] When certain features of a transaction distinguish between transactions, then it is appropriate to account them in different ways.

Regarding the unlevel playing field, a choice among methods may be preferred if the intentions of management with respect to the underlying transactions are different. By choosing

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[390] As a matter of fact, the uniformity argument could just as easily be advanced in favor of the pooling method.

among alternatives, managers send signals to investors and analysts, thus providing useful information about strategies and policies adopted. In addition, pooling is less expensive to implement when compared with the costly appraisals that are required by the purchase method (FASB 141, B66).

Last but not least, with respect to the better information about intangibles argument, if a business combination is effected through an exchange of equity interests or without any consideration at all, it is questionable whether anything of economic substance has occurred which would lead to the generation of goodwill. The most persuasive prior argument in favor of the pooling of interest method was that reflected a transaction in which there was only a change in the legal structure of shareholding interests which was not economically relevant from an accounting perspective.

In sum, the FASB admits that "accounting information cannot avoid affecting behavior, nor should it" (FAS 141, B72). However, if business combinations are felt to be too complex to be properly accounted for through an international convergence of accounting standards, accounting regulation might just as well be reduced to providing general guidance and permitting managerial choice regarding the specific accounting methods operation by operation. Therefore, the presumption that "virtually all business combinations are acquisitions" ought to be removed with the emphasis being instead on the need to consider the individual circumstances of each combination in determining whether it represents a merger or an acquisition. If the existence of different types of business combinations is nowadays conceded by all the participants in the accounting arena, accounting regulation, especially if *based on principles*, may easily accept to leave preparers choose, and concentrate then on careful guidance that shall avoid opportunistic switch among methods through time. In addition, this freedom of choice between methods may offer relevant signals about the managerial intents to capital market participants and shareholders.[391]

In conclusion, the current state of resistance and confusion in the transnational accounting for business combinations requires abandoning the adjustments at the margin through scope exceptions, in order to seek instead for a comprehensive framework capable of encompassing difficulties and addressing preparers and users in a thoughtful and understandable way.

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[391] If the risk of opportunistic behaviours and misleading representations are feared to be too high as the result of such accounting flexibility, then it may be more prudent to allow only one method; but in that case it seems that the pooling of interests method deserves greater consideration.

SUGGESTIONS FOR IMPROVING ACCOUNTING FOR BUSINESS COMBINATIONS

Two main problems in the current approach adopted by the FASB and IASB need to be reconsidered: the existence of combinations that are mergers, and the measurement issues involved by the purchase approach. These problems relate to the overall position of the standard on business combinations in the accounting conceptual framework, as stressed by the German regulatory body as quoted in the introduction.

Both FASB 141 (BC29, BC57-B62) and IFRS3r (BC41–BC43) argue that there is congruence between the purchase method and the historical cost accounting model. This argument is based on an analogy between a business combination and the purchase of a single asset:

> "The purchase method produces results that are comparable with those of entities that grow by acquiring similar assets in a number of smaller purchases that are not business combinations. The Board agreed with those who stated that the purchase method is consistent with how other asset acquisitions are accounted for" (FAS 141, B48).

The analogy is driven by the image of a transfer of ownership control where the right to exercise control is paid for in a lump sum. The acquired entity is therefore considered to be an acquired asset in its entirety. However, from an accounting measurement perspective, the net assets of the acquired entity are combined on a piecemeal basis. Consequently, the primary rhetorical image underlying the purchase method is at odds with the concept of the firm as an economic entity and a going concern. Continuity in the operations of the entity is a necessary condition for a going concern. Continuity of operations is also a useful criterion for distinguishing between a merger (continuity) and an acquisition (lack of continuity). When a business combination takes place among entities under common control, continuity of operations is evident because the enterprises are related components of the same economic entity. When combinations occur among economically independent entities, the continuity of operations depends largely on management's strategic intentions as in, for example, the desire to enhance the continuity of a brand; however, continuity in many cases is the desired strategic objective.

The economic entity assumption and the going concern principle are central concepts in virtually every country and regulatory context (Hoarau 2006, 43).[392] These principles provide the basis for historical cost accounting. Historical cost accounting does not however purport to provide a current valuation for the firm; instead it reflects the income generating processes of the

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[392] See for example, FASB 141, paragraph B53.

firm over time. The purchase method is therefore not consistent with the historical cost accounting principle (contrary to FASB 141, B58), especially when there is continuity in the operations of the combining entities. Moreover, when the complexities of the underlying economics of a business combination are accounted for using the purchase method, the reported values are subjective estimates. There is a disregard of the continuity in the activities of the combined enterprises and the generation of joint incomes through time. This casts doubt upon the relevance of fair values either for assessing managerial accountability or for purposes of share valuation (contrary to FASB 141, B44).

In sum, the rationale for eliminating the pooling of interests method appears to be questionable. While the FASB concluded that "virtually all business combinations are acquisitions", this conclusion effectively ignored the existence of mergers, even though at least one third of business combinations in leading economies actually are mergers. In fact, business combinations are complex and significant events in the current economic organization and dynamics of business firms. This complexity should lead to a search for the distinctive features of business combinations that distinguish between different types of transactions. It factually appears that this recognition has led both the FASB and IASB to revise their previous positions and to release new standards that adopt a more cautious approach. However, the implicit notion of "change in ownership control" that they have adopted to distinguish between types of combinations actually fails to address the underlying issues properly. In addition, the "net assets approach" that is retained is opaque and less informative that the pooling approach.

The elimination of pooling was based on a proprietorship perspective, which considers the underlying combination to be an exchange of ownership interests between the owners of the combining entities (see FASB 141, B39). This accounting representation has merit when the combination is effected exclusively through an exchange of shares, and it may be understood to be a mere change in legal form. But, when a significant change in ownership interests is involved (see FAS 141, B40), something of economic substance has occurred, especially when a significant premium is paid in the exchange ratio. In order to recognize this economic event, the purchase method came to be defined as the best solution to the problem of accounting for business combinations. This decision was motivated by a capital market perspective which conflates the consideration paid with a change in ownership control.

However, from the Chinese perspective, which focuses on the combination of ongoing business entities, the main point to be considered is the distinction between shareholders' equity and entity equity (Biondi 2007). If a distinction is made between shareholders' equity and entity equity, the "mere change in legal form" argument no longer holds, and the continuity in the

operations becomes the cornerstone of the pooling approach. From this perspective, the traditional non recognition of acquisition goodwill allows for the maximum consistency in accounting reports (and related measures of performance). At the same time, this continuity of operations perspective may actually constitute a coherent basis for recognizing goodwill.[393] The pooling method is able to distinguish entity equity from shareholder equity, and thus to recognize the difference between the consideration paid and the net book value of the acquired firm as a variant of "acquisition goodwill" which does not require estimating fair values. The acquired company's shareholders essentially receive a form of consideration directly from the entity for ratifying the merger, especially when the business combination takes place among entities not under common control. By making a distinction between shareholders' equity and entity equity, the pooling approach could charge or credit the acquisition differential to entity equity. This approach would account for the implicit financial resources management is paying for by effecting the merger.[394]

In sum, a new comprehensive approach to accounting for business combinations may be characterized by the following line of reasoning, which may lead to harmonize and enhance both the Chinese approach and the FASB and IASB's joint approach. The first step would be to distinguish clearly between combinations among related or unrelated entities. The status of the relationship between the entities should not be limited to ownership control (or other criteria base on legal form and structure), but rather it should include influence and other economic indicators of group dependence. Focus in there on common control, economic integration, administrative interdependence, financial interdependence, commercial interdependence, employee interdependence, and common public persona (Strasser and Blumberg 2008). In the case of related entities, some variants of pooling ought to be preferred. In case of unrelated entities, the second step would be to check for continuity in the operations of the combining entities. Continuity may make pooling preferable, while a discontinuity of one of the combining entities may lead to purchase accounting. In addition, pooling ought to integrate the distinction between shareholders' equity and entity's equity, which may recognized the net economic consideration

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[393] Many respondents agreed that, if goodwill is also capitalised, it should be amortised, to make management responsible of the investment of entity resources that might be utilised otherwise, or distributed to stakeholders.

[394] The consideration paid to bring the previously separate entities together comprises either an issuance of equity instruments (shares-driven consideration), or a transfer of cash or cash equivalents (cash-driven consideration), or a mix thereof. The cash-driven consideration may be effected by increasing debt (debt-driven combination). From the entity viewpoint, the overall consideration should be recognized as an outflow from the entity towards the relevant parties (usually, the shareholders), and the management should be held accountable for this transfer as a charge or an investment.

involved by the combination (goodwill) even in case of pooling. The question of how to measure goodwill under pooling would remain open.

More generally speaking, the standard on business combination should be considered together with the overall approach to accounting for enterprise groups. The suggested notions of relatedness and continuity should then correspond with the criteria adopted for related party disclosures, investments in associates (long-term equity investments), and consolidated statements.

CONCLUSION

The accounting treatment of a business combination as a purchase transaction requires the identification of an acquiring entity, the identification of an acquired entity, and the measurement of an acquisition price. While this seems to be a straight forward exercise, the satisfaction of these three requirements underestimates the complexities associated with the synergistic transformation taking place in a business combination through time. The measurement of the acquisition price requires an excessive reliance on the consideration paid as the proper measure of value, and it forces an unreliable estimation of fair values as the basis for future accountability in a way that may be detrimental to the firm (Ramanna and Watts 2007). The exceptions introduced by recent releases do not change this conclusion. The fair value approach is generally reinforced in the new releases. The inclusion of minority interests in shareholders' equity continues the "change of ownership" concept adopted by the FASB and partially by the IASB. As a result, it is practically impossible to distinguish fair value from book value. Moreover, transactions between shareholders and the acquiring company – such as exchanges of non controlling interests - are considered to be transactions among shareholders that will be accounted for as "equity transactions". The latter method presents a problem because it is a variant of pooling; and if the transaction has a cost for the entity (i.e., involves a payment to minority shareholders from entity resources), the payment will not be recognized or accounted for.

More generally speaking, the elimination of the pooling method appears to have been based on a particular understanding of the underlying economics of business combinations. The Chinese accounting standards setting body sought to develop a distinctly different understanding of business combinations, one which reflects the likelihood that there will be reorganizations among ongoing entities under common control and that these types of combinations should be accounted for using the pooling of interest method. In any case, a new comprehensive

framework for accounting for business combinations seems to be needed to overcome the current state of resistance and confusion in the transnational accounting for business combinations. The notions of relatedness between and continuity in the combining entities ought to be central to the development of this new framework, which should be considered in the context of accounting for enterprise groups that dominate the economic and financial scene.

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TABLE 1

**Pro Forma Analysis of the Impact of
Pooling versus Purchase for TCL Industries Reorganization**
(in million RMB)

	Pooling Method (as reported)	Purchase Method (pro forma)
Consolidated net income (a)	570.57	425.39
Total Liabilities (b)	10,199.94	10,199.94
Shareholders' equity (c)	2,263.38	3,736.38
Acquisition goodwill	--	1,473.00
Return on Equity (a/c)	25.21%	11.39%
Debt to Equity (b/c)	451%	273%

TABLE 2
A Comparison of FASB 141, IFRS 3 and CASC 20

	FASB 141 (before 2007)	IFRS 3 (Before 2007)	CASC 20
(i) Definition business combination	A business combination occurs when an entity acquires net assets constituting a business enterprise or acquires equity interests in one or more other entities and obtains control over that entity or entities.	A business combination involves the bringing together of separate entities or businesses into one reporting entity.	A business combination involves the bringing together of separate entities or businesses into one reporting entity.
(ii) Scope exclusions	♦ Not-for-profit organizations ♦ Mutual enterprises ♦ Joint ventures ♦ Entities under common control ♦ Combinations by means other than acquisition of net assets or ownership interests	♦ Joint ventures ♦ Entities under common control ♦ Mutual entities ♦ Combinations by contract alone without obtaining of ownership interest	♦ Long-term equity investments
(iii) Perspective from which the method is applied	Acquirer	Acquirer	Controlling party or parties
(iv) Treatment of goodwill	Recognized as an asset, but not amortized. Tested for impairment.	Recognized as an asset, but not amortized. Tested for impairment.	♦ *Entities under common control*: not recognized. ♦ *Entities not under common control*: Recognized as asset, but not amortized. Tested for impairment.
(v) Valuation of identifiable assets,	Fair value	Fair value	♦ *Entities under common control*: Book

			value. ♦ *Entities not under common control*: Fair value.
liabilities and contingent liabilities			
(vi) Accounting method of reference	Purchase	Purchase	♦ *Entities under common control*: Pooling. ♦ *Entities not under common control*: Purchase

TABLE 3
Comparative Analysis of the Understandings of the Economics of Purchase versus Pooling

	Purchase	Pooling
(i) The underlying economic substance of a business combination	A business combination is a purchase of a target company by an acquiring company in a capital market transaction.	A business combination is a merger of previously distinct enterprises into a jointly managed enterprise.
(ii) Key logic underlying the application of the method	Discontinuity in the activities of the acquired company.	Continuity in the activities of the combining enterprises.
(iii) Key notion for the application of the method	Acquisition	Merger
(iv) Treatment of goodwill	Recognized as a permanent asset. Not amortized but tested for impairment.	Not recognized. Any acquisition differential is adjusted against shareholders' equity.
(v) Valuation of assets, liabilities and contingent liabilities	Fair value (market basis).	Book value (historical cost basis).
(vi) Perspective of reference	Valuation based on a market exchange at a specific point in time.	Representation of the activities of two or more continuous business enterprises joined together.
Source: Biondi (2007)		

IS THE CAPITALIZATION OF DEVELOPMENT COSTS ACCORDING TO IAS 38 REALLY CONSISTENT WITH THE FRAMEWORK?

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Abstract

There is no doubt research and development costs exert an essential influence on company's economic situation. As a result the discussion around the opportunity to capitalize intangible assets has always been very vigorous in the accounting literature. International Accounting Standards deal with accounting for intangible assets in IAS 38 which purpose is to prescribe the recognition and measurement criteria for intangible assets. According to the framework of the IFRS the objective of financial accounting is to provide information about financial position, performance and changes in financial position of an enterprise that is useful for decision making. To be useful, information must be relevant, understandable, reliable and comparable. This paper investigates whether the capitalization of development costs under the rules of IAS 38 is consistent with these principles.

Introduction

Research and development activities are found to be an important contributor to firm's income and capital market value. As a result, the discussion around the opportunity to capitalize intangible assets has always been very vigorous in the accounting literature (Lev and Sougiannis, 1996; Litan and Wallison, 2000; Healy, Myers and Howe, 2002; Kothari, Laguerre and Leone, 2002; Dawo, 2003; Bentele, 2004; Hepers, 2006; Wulf, 2007; Mindermann, 2009). International Accounting Standards deal with accounting for intangible assets in IAS 38 which purpose is to prescribe the recognition and measurement criteria for intangible assets. According to the framework the objective of financial accounting is to provide financial information that is useful for decision making. To be useful, information must be relevant, understandable, reliable

and comparable. The information is designated as **relevant** when it affects the economic decisions of users by helping them evaluate past, present or future events, as well as confirming or correcting their past evaluations (IFRS F.26). Information must be **understandable** to enable users, who have a reasonable knowledge of business and economic activities and accounting, and who study the information with reasonable diligence, to comprehend the real meaning of the information. Relevant information should not be excluded because it is too complex or difficult for certain users to understand (IFRS F.25). **Reliability** is given if the information is free from material error and bias and can be depended upon by users to represent faithfully that which it either purports to represent or could reasonably be expected to represent (IFRS F.31). In order to assess a company's performance the investors must be able to **compare** the financial statements of a company through time and to compare financial statements between firms, i.e. the investors need information which is consistent across firms and over time (IFRS F.39-41).

This paper investigates whether the capitalization of internally generated intangible assets under the rules of IAS 38 is consistent with the principles mentioned above. A short overview on the accounting rules of internally generated intangible assets of IAS 38 is given in chapter two. Chapter three considers whether these rules really meet the principles of decision usefulness. The paper concludes by recommending how the capitalization of internally generated intangible assets can be improved with regard to the decision usefulness.

Recognition and Measurement of internally generated intangible assets

Recognition

IAS 38.8 defines an intangible asset as an identifiable non-monetary asset without physical substance. This means, that in addition to the usual characteristics of an asset according to the framework an intangible must also be "non-monetary" "without physical substance" and

"identifiable". Consequently in combination with the attributes of an asset the criteria of an intangible asset are:

1. **Non monetary:** Subject to IAS 38.8 monetary assets are money held and assets to be received in fixed or determinable amounts of money. All assets which do not meet this definition are to classify as intangible assets.

2. **Without physical substance:** Sometimes an intangible asset may be contained on or in a tangible item. According to the examples in IAS 38 the asset should be classified as an intangible asset if the intangible component is the most significant element.

3. **Identifiability:** This criterion demands, that the intangible can distinguish from goodwill arising from a business combination (IAS 38.11). That is the case when the asset arises from contractual or other legal rights, regardless of whether those rights are transferable or separable from the entity or other rights (IAS 38.12 (a)). Identifiability can also be demonstrated by the fact that the asset is separable from rest of the business. Separability exists if the enterprise could sell, transfer, license, rent or exchange the future economic benefit attributable to the intangible asset, either individually or together with a related contract, asset or liability (IAS 38.12 (a)).

4. **Control:** The provisions of IAS 38 require that the intangible asset is controlled by the firm. Control relates to an enterprise's capacity to benefit exclusively from the benefit (or certain of the benefits) embodied in the intangible asset. Control implies the power of both, to obtain future economic benefits flowing from the underlying resource and to restrict the access of others to those benefits.

5. **Future economic benefit:** The future economic benefit embodied in an asset is the potential to contribute to net cash inflow of an enterprise (F.53).This recognition criterion is also derived from the framework and entails that the expected future benefits to the company from controlling the asset must be probable.

An item may be recognized as an intangible asset when it meets the definition of an intangible asset mentioned above as well as corresponds to the following recognition criteria: To recognise an intangible asset, the enterprise must deem it probable that future economic benefits associated with that asset will flow to the enterprise, and it has a cost or value that can be measured reliably (IAS 38.21). If an intangible item does not meet any of the criteria for definition and recognition as an asset, the expenditure is recognised as an expense when incurred. Expenditure that was initially recognised as an expense is not included in the cost of an intangible asset at a later date (IAS 38.71).

It lies in the nature of internally generated intangible assets that they are more uncertain than separately acquired intangible assets. Firstly, problems arise in identifying whether there is an identifiable intangible asset which will generate a future economic benefit (Egginton, 1990; Kothari, Laguerre and Leone, 2002; Wulf, 2007). Secondly, it is more difficult to measure the cost or the value of these assets because there are usually no market prices available for internally generated intangible assets (Ballwieser, 2006; Küting and Dawo, 2003).

As a result, the IASB defined rules for the recognition of internally generated intangible assets which are more demanding. In order to determine if an internally generated intangible asset qualifies for recognition, the IASB distinguishes research from development activity. Research is defined as original and planned investigations to gain new scientific or technical knowledge. The application of such knowledge to the plan or design of new products or processes is considered as development. IAS 38.54 requires research costs to be expensed as incurred because a firm can never demonstrate that expected future benefits from such outlays are probable.

In contrast to the research phase, the development stage is further advanced. At this more advanced stage of the innovation process, an enterprise might possibly identify an intangible asset and demonstrate its probable future economic benefits. If the enterprise fulfils the following

2119

six restrictive requirements, the standard allows recognition of an intangible asset during the development phase (IAS 38.57):

1. The technical feasibility of completing the intangible asset so that it will be available for use or sale;

2. its intention to complete the intangible asset and either use it or sell it;

3. its ability to use or sell the intangible asset;

4. the mechanism by which the intangible will generate probable future economic benefits;

5. the availability of adequate technical, financial and other resources to complete the development and to use or sell the intangible asset; and

6. the enterprise's ability to reliably measure the expenditure attributable to the intangible asset during its development.

The recognition criterion of **technical feasibility** is barely illustrated in the specifications of IAS 38 so that the enterprise has the opportunity to base decisions on whether or not a project is technically feasible on its subjective point of view. Because of its similarity the definition of technical feasibility generally follows the US-GAAP rules of accounting for the costs of software in SFAS 86 (Baetge and Keitz, 2002; Lutz-Ingold 2005). Accordingly, a software program has established technical feasibility when a detailed program design or working model has been completed (Lev, 2001). However, the following of SFAS 86 may substantiate the technical feasibility for software but it is not adequate for other intangible items. Furthermore, the recognition criterion of technical feasibility is only sufficient for traditional product or process development. For other intangible items (like brands) the question of technical feasibility is negligible (Dawo, 2003; Baetge and Keitz, 2002; Hepers, 2005; Schreiber, 2005).

To meet the second criterion for recognition, the company has to **intend completing** the intangible asset for internal usage or external selling. Strictly speaking, this criterion results from the application of the framework and IAS 1. Because without an intention of production or

commercialisation, there is no possibility to get an economic benefit of the development. The intention of completion is sufficiently proven if development is continued until the point of preparation of the annual financial statement. This is based on the argument that a businessman would never continue development if he did not intend to finish it (Dawo, 2003; Baetge and Keitz, 2002; Lutz-Ingold, 2005).

The third criterion for capitalisation recognition is the **ability to internal use or external sale** which results from the basic economic principles. These economic principles imply that companies would not develop an intangible asset unless it was internally used or externally sold. This criterion is met, if legal or effective measure lead to presumption that the potential benefit is accessible (Dawo, 2003). More precisely, the evidence has to be given on the ability as well as on the intention of internal usage or external selling. The reason for this provision is that a completed intangible asset may intentionally not be used in order to prevent a decrease in value of existing inventory (Lutz-Ingold, 2005).

The fourth criterion requires a **verification, in which terms the asset is likely to yield benefits.** Whereas an increase of benefits has to be proven for internally generated intangible assets, for derivative acquired intangible assets it is sufficient to expect benefits. Therefore, the requirements for the capitalization of internally generated intangible assets are more restrictive (Fülbier, Honold and Klar, 2000). Following IAS 38.60 this proof has to be documented according to IAS 36. In case of selling intangible assets or products which were produced with the aid of intangible assets, the existence of a related market has to be based on market research. In case of internal use the intangible assets´ potential benefit depends on the technical and economic consistence and is therefore mainly determined by the criterion of feasibility. In case of an internal use future economic benefits have to be based on the estimation of the net present value of payment flows (Baetge and Keitz, 2002; Schreiber, 2005).

The criterion of possessing **adequate technical, financial and other resources for completion and the subsequent utilization** can be met – according to IAS 38.61 – by presenting a business plan showing the needed resources and the companies´ ability to mobilize these resources. Regarding the availability of debt capital a letter of intent from the lender is accepted as a qualified proof (Küting and Dawo, 2003).

The last criterion for capitalization recognition requires a **reliable valuation** of all expenditures connected to the developed intangible asset. This is when an appropriately equipped costing system is able to reliably determine the cost of production.

Measurement

When the recognition criteria are satisfied, intangible assets are initially measured at cost (IAS 38.24). The standard states, that after recognition, intangible assets may be measured using either the cost model or the revaluation model (IAS 38.72). After initial recognition, the cost model suggests that intangible assets should be carried at cost less any amortisation and impairment losses (Wulf, 2007). If the revaluation model is selected, intangible assets shall be carried at its fair value less any subsequent accumulated amortisation and impairment losses; fair values are to be determined by reference to an active market (IAS 38.75). In this respect, an active market is one in which the items traded are homogeneous, willing buyers and sellers can be found at any time, and prices are available to the public (IAS 38.8). Such active markets are expected to be uncommon for intangible assets (Küting and Dawo, 2003; Ballwieser, 2006; Mindermann, 2009). Therefore, in most instances, the revaluation model would not be a realistically usable model. Nevertheless, if fair value information can be obtained from active markets, and the enterprise opts for the revaluation model, it will be essential to perform revaluations on a regular basis, such that the carrying amount does not differ materially from its fair value at balance sheet date.

Assessment of decision usefulness

While the requirements of understandability appear uncontroversial, the requirements of relevance, reliability and comparability have to be more carefully examined.

Relevance

As opposed to other accounting standards (like US-GAAP or HGB) the IFRS allow the capitalization of development costs, which is most welcome under the relevance aspect (Aboody and Lev 1998). Development expenses have to be capitalized with regard to aforementioned premises. Consequently at first glance, financial statements according to IFRS should be able to give much more information about internally generated intangible assets than other financial statements (like US-GAAP or HGB). However, the capitalization rules for development costs as provided in IAS 38 are prudence-driven. The underlying reason being that financial accounting shall emphasise the aspect of information reliability (Healy, Myers and Howe, 2002). The trade-off between relevance and reliability causes that only a small amount of development cost can be capitalized if the requirements are too restrictively interpreted (Mindermann, 2009). For example, the technical feasibility of completing an asset cannot be verified until the final stage of a development process. The same is true for the evidence that all resources are available, which are necessary to finish the development (Dawo, 2003).

Furthermore, the codified prohibition of reinstatement that is mentioned in IAS 38.71 is unsatisfying with regard to the aspect of relevance because only a relatively small part of the development expenditures can be considered for capitalization (Lutz-Ingold, 2005). If the asset fulfils the capitalization criteria for the first time its value in the balance sheet will be too low, because only parts of the whole development costs may be capitalized. The users of financial statements will not be informed about the real value of the asset and will not be able to appraise it by themselves. So the balance sheet value is meaningless (Bentele, 2004). Due to the fact

that there are explicit capitalization prohibitions for certain internally generated intangible assets (such as research costs), the contingent of internally generated intangible assets which are allowed to be capitalized is manageable. Finally, there are not many more internally generated intangible assets capitalizable according to IFRS in comparison to other accounting standards which do not allow the capitalization of internally generated intangible assets (Lutz-Ingold, 2005).

Reliability

Financial statements information have to be reviewable which means that third parties must be able to verify if the information are true and in accordance with actuality. Scopes of discretions and options to capitalize lower the objectivity of financial statements. The capitalisation of expenditures for intangible assets requires that costs are assigned solely to the development phase. Therefore, the differentiation between costs for research and those for development is the first step in order to determine the expenditures to be capitalized. If the company cannot distinguish the research phase from the development phase, the scope of discretion is limited: the expenditure is treated as if it only were incurred in the research phase. Of course, a statement that an explicit distinction cannot be made is an area of discretion in itself (Keitz, 1997). This remaining scope of discretion can be indirectly limited by additional documentation containing reasons why a project is already in the development phase (Hepers, 2005).

Furthermore, the additional recognition criteria in IAS 38.57 which should guarantee objectivity can be influenced by the balancing enterprise, because IAS 38 does not determine how the evidence on the fulfilled capitalization criteria has to be provided. Pursuant to the principles of objectivity evidence provided by a third party (for example in the form of an expert testimony) would be favourable. External references enhance the verifiability. It would be consequent, if these requirements were also part of the capitalization rules of development cost (Bentele, 2004; Baetge and Keitz, 2002). But even if an enterprise is able to demonstrate all definition and

recognition criteria, eventually it will be the company's choice whether or not it externalizes them, i.e. the obligation to capitalize de facto turns into an option to capitalize internally generated intangible assets (Keitz, 1997; Ballwieser, 2006).

After recognition the standard allows for intangible assets to be carried at their fair value. However, the fair value is not estimated as a reliable valuation rate. IAS 38 claims that the fair value shall be determined by reference to an active market. The distortion of prices by speculative effects could, however, interfere with reliability (Dawo, 2003; Bentele, 2004; Hepers, 2006). Basically, perfect markets must be a precondition for a definite fair value. Only in this case the existence of a unique market price, which includes all valuation relevant information, is warranted. Imperfect markets show a difference between the purchase price and the retail price (Barth and Landsman, 1995). If the intangible asset will only be used for internal purposes, the reference to a market price is inappropriate and leads to a pretended objectivity (Dawo, 2003; Bentele, 2004).

The principle of reliability also postulates that the information about the internally generated intangible assets is complete. Thus, a financial statement should inform about all intangible items of an enterprise. Of course, it is not possible to specify all intangible assets in the balance sheet because some items do not meet the definition criteria of an (intangible) asset and other items are prohibited to be capitalized (for example the IAS 38.15 disallows the capitalization of customer lists or market shares). In these cases the principles of completeness would be met doubtless if IAS 38 requires information about these non-capitalizable items in the notes (Mindermann, 2009). But IAS 38 does not demand information about these items, and thus IAS 38 does not adhere strictly to the principles of completeness either (Bentele, 2004; Hepers, 2006).

Comparability

Comparability is only warranted, if every enterprise interprets the capitalization criteria in the same way. Due to the fact that there are no rules, how an enterprise shall demonstrate the additional recognition criteria for internally generated intangible assets, it is inevitable that companies proceed in different ways and therefore no comparable information is delivered (Keitz, 1997; Dawo, 2003; Bentele, 2004; Hepers, 2006).

With regard to comparability, the choice between benchmark treatment and allowed alternative treatment is problematic. These valuation rates are derived from fundamentally different origins and are therefore not suitable for comparisons of the accounts' content. Increasingly drastic is the development of the discrepancy in valuation over time as asset prices continually increase (Baetge and Keitz, 2002; Hepers, 2006). Within the scope of benchmark treatment, deductions of depreciations are made and thus the valuation rate decreases. As opposed to this, with the allowed alternative treatment the continuous revaluation leads to an increasing valuation rate (Bentele, 2004; Mindermann, 2009).

Recommendations

Reliability and comparability could be improved if the rules of IAS 38 would determine how an enterprise shall demonstrate that an internally generated intangible asset will generate probable future economic benefits. Pursuant to reliability evidence provided by a third party would be favourable. At least the standard should commit enterprises to state in the notes, why and how the capitalized internally generated intangible asset meets the recognition criteria (Mindermann, 2009). This would enable users of financial statements to assess whether an enterprise is conservative or liberal in the capitalization of its internally generated intangible assets (Høegh-Krohn and Knivsflå, 2000).

Relevance could be improved if IAS 38 would allow the reinstatement of previously expensed costs (Lev and Zarowin, 1999; Høegh-Krohn and Knivsflå, 2000; Dawo, 2003). When an enterprise starts research and development activities the future economic benefits of these activities are usually very uncertain, and if an internally generated intangible resource does not meet the criteria at this early stage its cost should be expensed when incurred. But if the enterprise is able to demonstrate the future economic benefits in a subsequent period, the previously expensed cost should be capitalized and amortized over its remaining life (Lev and Zarowin, 1999).

Given the fact that intangibles resources are difficult to verify, and that the management of an enterprise could use them to manage or manipulate reported earnings, stringent rules for reinstatement of previously expensed costs are required. *Høegh-Krohn* and *Knivsflå* suggest, that an enterprise should initially disclose in its notes when research and development activities were started and that a possible intangible asset might be created in a subsequent periods, but at this early stage the uncertainty of the future economic benefits prohibits capitalization. By doing this the enterprise does not only brief the users of financial statements but also creates an off-balance sheet portfolio of potential intangible assets (Mindermann, 2009). The reinstatement of previously expensed costs should be only allowed if a potential intangible asset was disclosed in advance and was added to the portfolio of potential assets. This would disallow enterprises to arbitrarily capitalize previously expensed costs (Høegh-Krohn and Knivsflå, 2000).

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Session 7.1: Financial Reporting

THE INFLUENCE OF COMPANY CHARACTERISTICS ON CORPORATE REPORTING ON THE INTERNET BY TURKISH LISTED FIRMS

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Abstract

The main objective of this study is to investigate the influence of company characteristics on corporate reporting on the internet by Turkish listed firms. The study was conducted on 44 companies of which 30 are randomly chosen and 14 are listed in the Corporate Governance Index (XCORP) of the Istanbul Stock Exchange (ISE). The methodology of the study is content analysis which was applied to the web sites of the companies included in the sample. The results of univariate test indicated significant association between information disclosure level on corporate web sites and the variables; ownership structure, auditor size, page rank, and being listed in XCORP. But, no significant association was found between information disclosure level and leverage. In addition, multivariate analyses proved that ownership structure, page rank, and being listed in XCORP are significant explanatory variables for the disclosure level on the corporate web sites.

Keywords: Corporate reporting, internet, audit size, ownership structure, leverage, Turkey

Introduction

Besides mandatory disclosures, firms make voluntary disclosures as well both by traditional tools such as hard copy publications (e.g. annual reports) and corporate web sites. Voluntary disclosure and its determinants have been identified as an important research area in financial reporting since the 1970s (Ho and Wong, 2001). Many studies have been conducted in different countries to find out the determinants of voluntary disclosure. Previously, these studies were conducted mainly by analyzing corporate annual reports. However, as internet usage becomes widespread,

corporations tend to disclose information electronically on corporate web sites. Therefore, corporate web sites have emerged as a new medium to conduct research studies.

In prior studies, researchers have used univariate and multivariate analyses to determine firm characteristics that influence voluntary disclosure level. In those studies, some of the variables that are investigated to have a likely effect on voluntary disclosure are firm size, ownership structure, auditor size, profitability, leverage, intangible assets percentage, industry type, listing status etc.

Although, prior studies provide information about the determinants of voluntary disclosure in developed countries, there is a need to make investigations of the subject in developing countries. Because, the characteristics of developed and developing countries are different from each other. This difference may result in variations in voluntary disclosure practices. This study aims to contribute to the existing literature in this way.

The remaining of the paper is organized as follows. Second section provides literature review. Third Section presents scope and methodology of the study. Hypotheses are developed in the fourth Section. The results are analyzed and discussed in the fifth Section. Finally, conclusions are drawn in Section six.

Literature review

Prior studies can be categorized as either descriptive studies (i.e., providing statistics on disclosed items) or association studies (i.e., providing evidence of independent variables associated with the level of disclosure) addressing the determinants of corporate reporting on the internet (Abdelsalam *et al*., 2007).

Descriptive studies

In the following paragraphs, findings of some prior descriptive studies conducted in various countries are summarized. There are variations among companies operating in different countries

in terms of web site usage for information disclsure. This may be atributable to country effect, timing difference among studies, or some other factors.

Deller *et al.* (1999) found in their study that 95% of the US corporations had a homepage, compared with 85% of the UK corporations and 76% of the German corporations. In the USA, substantially more corporations used the internet for investor relations activities (91%), compared to the UK (72%) and Germany (71%).

Marston (2003) conducted a study on the top 99 Japanese firms. She found that 91 companies (92 percent) had a web site and 78 companies (79 percent) had a web site with English version.

Hurtt *et al.* (2001) showed that 99 out of the Fortune 100 companies studied had web sites with some form of investor relations/financial information found on 93.

Abdul Hamid (2005) examined 100 stock market index-linked firms listed on the Kuala Lumpur Stock Exchange and showed that 74 companies (74 percent) had web sites. Out of these 74 firms 70 (95 percent) disclosed investor-related materials on firm web sites. Among those 70 firms, 23 (33 percent) had specific section on investor relations.

Gowthorpe and Amat (1999) found that out of a total of 379 quoted companies on the Madrid Stock Exchange, seventy (18.5%) are listed as having web sites. As a result of examination of web sites of firms, they proved that certain company sectors are far more likely to use websites for communication than others such as electricity and gas (83 percent), insurance companies (80 percent), and services (71 percent). Another significant finding of their studies was that larger companies are far more likely to have a web site: twenty-six of the IBEX-35 companies (74.2%) have sites. The authors concluded that Spanish companies still lag behind those in some other advanced economies in communicating with stakeholders via electronic means.

Oyelere and Mohamed (2007) analyzed 142 companies listed on the stock market in Oman, and found that only 84 of these companies maintain web sites, and only 31 of them provide financial information. Majority of these companies use the PDF format to publish the financial information. Hence, they expressed that the findings reveal a seemingly limited use of the internet for financial reporting purpose in Oman.

Ettredge *et al.* (2001) compared the disclosure levels of U.S. companies in 17 industries. Out of 490 U.S. companies, 402 (82 percent) had a web site in 1998. The most commonly disclosed items were quarterly reports (54 percent) and news releases (80 percent). Their comparative study also revealed that larger, more established firms tended to provide more information than smaller, emerging technology firms.

Association studies

In addition to descriptive studies referenced above, researchers conducted some empirical studies about the association of information disclosure level or content and firm characteristics. While those studies used mandatory or voluntary information disclosure levels as dependent variables, they used the following as independent variables: firm size, profitability, leverage, ownership structure, auditor size, chief executive officer duality, industry type, listing status and so on. Table 1 summarizes the findings of association studies.

Table 1:Ooverview of studies addressing determinants of voluntary disclosure

Author(s)	*Intermediary*	*Country*	*Number of firms*	*Significant influence*	*Not significant influence*
Camfferman and Cooke (2002)	Annual reports Multivariate	Netherlands	161	Trading companies, conglomerates, size, debt-to-equity ratio, current ratio	Return on equity, manufacturing companies, net income margin,

					audit firm
Camfferman and Cooke (2002)	Annual reports Multivariate	United Kingdom	161	Manufacturing companies, conglomerates, size, net income margin, and audit firm	Return on equity, debt-to-equity ratio, current ratio
Patton and Zelenka (1997)	Annual reports Univariate	Czech Republic	50	Size, auditor size, leverage, listing status, number of employees	Industry, profitability, operational risk (intangible assets percentage)
Singhvi and Desai (1971)	Annual reports Univariate	USA	155	Size, auditor size, listing status, profitability, ownership structure	
Singhvi and Desai (1971)	Annual reports Multivariate	USA	155	Listing status, profitability,	Size, auditor size, ownership structure
Malone *et al.* (1993)	Annual reports Multivariate	USA	125	Leverage, ownership structure, listing status	Size, diversification, profitability, audit firm, listing status, foreign operations, proportion of outside directors
Marston and Polei (2004)	Internet Univariate	Germany	50	Size, free float, listing status, systematic risk	Profitability

Oyelere *et al.* (2003)	Internet Multivariate	New Zealand	229	Size, liquidity, ownership spread, industry	Profitability, internationalization, leverage
Bonsón and Escobar (2006)	Internet Multivariate	Countries of Eastern Europe	266	Size, industry, auditor size	Country
Marston (2003)	Internet Univariate	Japan	99	Size	Profitability, industry, listing status

Scope and methodology

This study investigates the corporate reporting practices of Turkish companies listed on the Istanbul Stock Exchange (ISE). The ISE which was established in early 1986 is the only securities exchange in Turkey (ISE, 2009). The ISE Corporate Governance Index (XCORP hereafter) which includes 14 companies as of the first quarter of 2009 is one of the ISE Stock Market Indices. The Index is composed to measure the price and return performances of the companies traded on the ISE markets having corporate governance rating grades determined according to the "Corporate Governance Principles (CGP)" (can be obtained from http://www.cmb.gov.tr) issued by the Capital Markets Board (ISE, 2009). The sample of this study consists of 44 companies of which 14 included in the XCORP and 30 randomly chosen non-XCORP (N-XCORP hereafter) companies for comparative purposes. Web site of 1 company out of 30 randomly chosen was under construction at the time of the study conducted, and therefore, the analyses were conducted based on 43 companies.

The search engine Google and the web site of the CMB were used to find the companies' web addresses. The web sites of the companies were analyzed in the month of February 2009.

Content analysis method was used on the sample in order to collect data, and then the collected data was transferred onto Excel sheet. A list of criteria has been developed to evaluate the web sites of the companies in the sample. These criteria are based on literature review (Pirchegger and Wagenhofer, 1999; Marston and Polei, 2004; Marston, 2003; Khadaroo, 2005) and Public Disclosure and Transparency section of the CGP (CMB, 2005). Based on these criteria, a checklist was prepared consisting of six sections and 61 items that were measured on a yes/no bases, encoded as 1 and 0, respectively (see Table 6 in Appendix). The web site attributes were analyzed under the following six headings: general web page attributes, financial reports, general assembly, corporate governance, presentation of investor relations information, and social responsibility.

Hypotheses

A firm's disclosure level may be affected by factors such as psychological, sociological, economic, political, legal, institutional (Patton and Zelenka, 1997). Past studies investigated the influence of size, profitability, leverage, listing status, auditor size, liquidity, ownership structure, industry, risk, free float etc.

In the preliminary unpublished study which is currently under review for a journal, the author of this paper investigated industry, firm size, being listed in XCORP, and profitability influence on disclosure level on the internet. In that study, the results indicated no significant association between disclosure level and the variables; industry and profitability. However, the results indicated a positive association between disclosure level, and being listed in XCORP and firm size (measured by log of total assets).

More in-depth literature review motivated the author for more variables to be investigated about the subject; hence, this study came out. In this complimentary study, the association between the level of corporate reporting on the internet and the following variables are investigated:

2136

- *The ISE Corporate Governance Index (XCORP)*

- *Leverage (debt to equity ratio)*

- *Auditor size (Auditor-Big-4 or not)*

- *Ownership structure (percentage of shares held by unknown shareholders)*

- *Public exposure (measured by Google's PageRank)*

The ISE Corporate Governance Index (XCORP)

XCORP is composed to measure the price and return performances of the companies traded on the ISE markets having corporate governance rating grades determined according to the "Corporate Governance Principles" issued by the Capital Markets Board (ISE, 2009). The companies listed in this index is said to have best practices of corporate governance principles including public disclosure and transparency. As shown in Table 3, since the companies listed in the XCORP are superior to N-XCORP companies in disclosing information on corporate web sites, the first hypothesis was developed:

> H1. There is a positive association between XCORP listing and the total score of disclosed items on corporate web sites.

Leverage

The leverage ratio is a proxy for the financial risk of the firm. The higher the leverage ratio, the higher the risk of the firm, and the greater the expected extent of disclosure (Patton and Zelenka, 1997). Malone *et al*. (1993) and Inchausti (1997) also hypothesized that firms with a high rate of leverage disclose more information than those with low rate. The arguments that support this hypothesis are that information may be used to avoid agency costs in the relationship between owners and managers to reduce information asymmetries (Inchausti, (1997). Thus the following hypothesis was stated:

H2. Firms with high debt/equity ratios disclose more information than do firms with low debt/equity ratios.

Auditor size (Big-4 or non-Big-4 audit firm)

Past studies examined possible influence of external auditor on information disclosure level of firms (Patton and Zelenka, 1997; Singhvi and Desai, 1971; Malone *et al.*, 1993). Malone et al. (1993) argue that smaller CPA firms are more sensitive to client demands because of the economic consequences associated with the loss of a client, on the other hand, larger firms have a greater incentive to require adverse disclosures by the client.

The alternative hypothesis tested was thus stated:

H3. Firms that work with larger audit firms disclose more information than those that work with smaller audit firms.

Public exposure

Public exposure expresses the level of intensity that a web page is visited by public. Based on some prior studies (Patten, 2002; Tilling, 2004), Gutierrez-Nieto, Fuertes-Callén, and Serrano-Cinca (2008) states that the more visible the entity, the more information it will disclose in accordance with legitimacy theory.

Therefore, the following hypothesis was stated:

H4. A positive association exists between a firm's public exposure on the internet and the total score of disclosed items on corporate web sites.

To test H3, Google's PageRank (PR) was chosen as the measure of public exposure on the internet (Gutierrez-Nieto, Fuertes-Callén, and Serrano-Cinca (2008). Google algorithms assign a PR, which ranges from 0 to 10 to each webpage. The more visible a webpage is the higher PR it receives.

Ownership structure

Some studies have examined the ownership structure that may influence voluntary disclosure practices of the companies (Malone et al, 1993; Singhvi and Desai, 1971; Raffournier, 1995). Raffournier (1995) states that agency relations are likely to play a major role in the disclosure policy of companies, because annual reports can be used to reduce monitoring costs. Hence, he argues that managers of firms whose ownership is diffuse have an incentive to disclose more information in order to help shareholders in monitoring their behaviour. Singhvi and Desai (1971) state that there may be positive relationship between the number of stockholders and the quality of disclosure in annual reports. Malone *et al*. (1993) also state that as the number of shareholders increases, one would expect financial disclosures to increase.

H5. A positive association exists between a firm's ownership diffusion and the total score of disclosed items on corporate web sites.

In this study, ownership diffusion is defined as the percentage of shares not held by known shareholders (Raffournier, 1995).

Discussion and analysis of the results

Descriptive statistics

Table 2 shows the distribution of the variables used in the study. There are large variations in ownership structure. The portion of unknown shareholders ranges from 0.02 to 0.84. There is a wide range in the level of voluntary scores in the sample. The highest disclosure score obtained is 52, and the lowest is 3. Almost half of the companies are the customers of Big-4 auditing firms. Page rank also indicates wide range, from 1 to 8, in the level of public exposure. On average, leverage is 1.92 among the sample companies in Turkey.

Table 2: Descriptive statistics

	N	Minimum	Maximum	Mean	Std. Deviation
OWNERSHIP (OSHIP)	43	.02	.84	.3530	.18917
AUDITOR (ADTOR)	43	0	1	.51	.506
PAGERANK (PRANK)	43	1	8	4.67	1.569
LEVERAGE (LRAGE)	43	.0042	18.7942	1.92	3.281
TOTAL SCORE (TSCORE)	43	3	52	33.21	11.755
Valid N (listwise)	43				

Disclosure items

The findings with respect to the existence of disclosure items which totals 61, on corporate web sites are presented in Table 3. The results are given separately for XCORP and N-XCORP companies so as to make comparison. In addition, the percentages and ranking of items are also given for the whole sample under TOTAL and Rank columns respectively. Comparison of disclosure levels reveals that XCORP companies are superior to N-XCORP companies in almost all disclosure items. There are a few exceptional items.

Table 3: Disclosure of items on corporate web sites

	XCORP (N=14)	N-XCORP (N=29)	TOTAL (N=43)	Rank
GENERAL ATTRIBUTES				
Graphic images	100.00%	100.00%	100.00%	1
Animated graphics	92.86%	72.41%	79.07%	20
Sound files	0.00%	10.34%	6.98%	59
Video files	57.14%	20.69%	32.56%	42
Search box (or link to search page)	57.14%	24.14%	34.88%	39
Company profile	100.00%	96.55%	97.67%	2

Advertisement of own products/services	100.00%	86.21%	90.70%	5
Homepage button	92.86%	93.10%	93.02%	3
English version of web site	85.71%	79.31%	81.40%	17
Quick reach	14.29%	10.34%	11.63%	57
Site map	71.43%	48.28%	55.81%	28
Security information	14.29%	3.45%	6.98%	60
Last update date	7.14%	6.90%	6.98%	61
INVESTOR RELATIONS				
Link to investor relations from home page	92.86%	82.76%	86.05%	8
English version of investor relations page	85.71%	44.83%	58.14%	26
Special condition disclosures	100.00%	75.86%	83.72%	13
Press releases/room	78.57%	44.83%	55.81%	29
Postal address for investor relations	50.00%	17.24%	27.91%	50
E-mail address for investor relations	71.43%	34.48%	46.51%	34
Phone number for investor relations	92.86%	34.48%	53.49%	30
Communication form	21.43%	6.90%	11.63%	58
Responsible person's name for investor relations	64.29%	17.24%	32.56%	43
Current stock prices	71.43%	37.93%	48.84%	32
Frequently asked questions	64.29%	37.93%	46.51%	35
Investors calendar	42.86%	10.34%	20.93%	52
FINANCIAL REPORTS				
Annual report	100.00%	89.66%	93.02%	4
Quarterly reports	85.71%	68.97%	74.42%	23
Balance-sheet	100.00%	82.76%	88.37%	6
Statement of income	100.00%	82.76%	88.37%	7
Statement of cash flow	100.00%	75.86%	83.72%	14
Changes in shareholders' equity	100.00%	72.41%	81.40%	18
Notes to financial statements	100.00%	79.31%	86.05%	9

Analysts Reports	42.86%	24.14%	30.23%	45
Dividend distribution table	50.00%	17.24%	27.91%	51
Auditors' reports	92.86%	55.17%	67.44%	25
Audit committee report	21.43%	20.69%	20.93%	53
GENERAL ASSEMBLY	0.00%	0.00%		
Agenda & invitation	100.00%	72.41%	81.40%	19
Meeting minutes of general assembly	100.00%	75.86%	83.72%	15
List of participants of general assembly	100.00%	62.07%	74.42%	24
Proxy voting form	92.86%	72.41%	79.07%	21
CORPORATE GOVERNANCE				
Number of clicks to get to corporate governance information	100.00%	27.59%	51.16%	31
Chairman message	57.14%	17.24%	30.23%	46
Board members	100.00%	79.31%	86.05%	10
Audit committee	85.71%	44.83%	58.14%	27
Ownership structure	100.00%	75.86%	83.72%	16
Preferred shares information	42.86%	24.14%	30.23%	47
Articles of Association	92.86%	82.76%	86.05%	11
Prospectus & Circulars	57.14%	44.83%	48.84%	33
Trade registry information	92.86%	72.41%	79.07%	22
Dividend distribution policy	42.86%	24.14%	30.23%	48
Code of ethics	100.00%	17.24%	44.19%	36
Disclosure policy	92.86%	6.90%	34.88%	40
Disclosure of insiders	57.14%	3.45%	20.93%	54
Corporate governance rating report	92.86%	0.00%	30.23%	49
Corporate governance compliance report	92.86%	82.76%	86.05%	12
SOCIAL RESPONSIBILITY				
Number of clicks to get to social responsibility information	64.29%	17.24%	32.56%	44
Education	57.14%	31.03%	39.53%	38

Culture and art	50.00%	27.59%	34.88%	41
Environment	57.14%	34.48%	41.86%	37
Sport	35.71%	10.34%	18.60%	55
Foundation	21.43%	10.34%	13.95%	56

Univariate analysis

Table 4 presents the results of the univariate analysis conducted by the Pearson correlation analysis for the dependent and independent variables. According to the results, the dependent variable total disclosure score is significantly associated with PRANK (at a level of 0.01), ADTOR (at a level of 0.01), and OSHIP (at a level of o.05). This means the more visitor attracts the web page of the corporation, the more information it discloses on the internet. Secondly, the companies who work with Big-4 auditing companies are more likely to disclose more information on corporate web pages. Thirdly, the ownership diffusion is negatively associated with total score of information disclosure. This means the higher the percentage of unknown shareholders, it tends to disclose less information on the web page, contrary to expectations. Lastly, LRAGE is not significantly associated with the information disclosure on the internet. Furthermore, the correlation analysis revealed the following significant associations for XCORP companies:

- XCORP companies & ADTOR (significant at 0.01 level). This means XCORP companies are more likely to work with Big-4 auditing firms.

- XCORP companies & PRANK (significant at 0.01 level). Since PRANK is a measure of public exposure, XCORP companies' web sites are more exposed to public.

- XCORP companies & TSCORE (significant at 0.01 level). This significant association is likely to be explained with the previous two significant associations. Big-4 auditing firms

may be encouraging and motivating their customers to disclose more information to stakeholders. In addition, XCORP & PRANK association also may mean that corporations whose web sites attracting more visitors tend to disclose more information on the web sites.

Table 4: Pearson correlation results

		OSHIP	ADTOR	PRANK	LRAGE	XCORP	TSCORE
OSHIP	Pearson Correlation	1	-.281	-.291	-.217	.016	-.352*
	Sig. (2-tailed)		.068	.058	.163	.921	.021
	N	43	43	43	43	43	43
ADTOR	Pearson Correlation	-.281	1	.605**	.306*	.480**	.438**
	Sig. (2-tailed)	.068		.000	.046	.001	.003
	N	43	43	43	43	43	43
PRANK	Pearson Correlation	-.291	.605**	1	.339*	.498**	.578**
	Sig. (2-tailed)	.058	.000		.026	.001	.000
	N	43	43	43	43	43	43
LRAGE	Pearson Correlation	-.217	.306*	.339*	1	.105	.101
	Sig. (2-tailed)	.163	.046	.026		.501	.520
	N	43	43	43	43	43	43
XCORP	Pearson Correlation	.016	.480**	.498**	.105	1	.662**
	Sig. (2-tailed)	.921	.001	.001	.501		.000
	N	43	43	43	43	43	43
TSCORE	Pearson Correlation	-.352*	.438**	.578**	.101	.662**	1
	Sig. (2-tailed)	.021	.003	.000	.520	.000	
	N	43	43	43	43	43	43

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Multivariate analysis

To test the 5 hypotheses established earlier, multivariate regression analysis was performed on the 5-variable multiple regression model.

The model which consists of five independent variables and the dependent variable is as follows:

$$TSCORE = \alpha + \beta_1 (OSHIP) + \beta_2 (ADTOR) + \beta_3 (PRANK) + \beta_4 (XKURY) + \beta_5 (LRAGE)$$

Where,

TSCORE = total disclosure on corporate web site

OSHIP = ownership diffusion (percentage of shares held by unknown shareholders)

ADTOR = auditor (0 if non-Big-4, 1 if Big-4)

PRANK = page rank (ranges from 0 to 10)

LRAGE = debt to equity ratio

The multivariate regression results are shown in Table 5. The model is significant at $p < .000$ (adjusted R^2 = .56). The findings support H1, and H4 provide evidence that the page rank, and being XCORP company, are significantly associated with disclosure level on the internet. Contrary to H5, negative significant association was found between ownership diffusion and information disclosure level. No support was found for a significant association for the varibles; leverage (H2) and Big-4 auditing firm (H3).

Hypothesis 1 predicts an association between being an XCORP company and disclosure level on the internet; I found a significant positive association.

Hypothesis 2 predicts an association between leverage and disclosure level on the internet; I found no significant association. This is in line with Oyelere *et al*. (2003), contrary to Malone *et al.* (1993).

Hypothesis 3 predicts an association between auditor size and disclosure level on the internet; I found no significant association. This finding contradicts some previous studies (Camfferman

2145

and Cooke (2002), Patton and Zelenka, 1997; Bonsón and Escobar, 2006) and parallels some others (Malone *et al.*, 1993; Singhvi and Desai, 1971).

Hypothesis 4 predicts an association between public exposure and disclosure level on the internet; I found significant positive association as hypothesized. The finding supports Gutierrez-Nieto, Fuertes-Callén, and Serrano Cinca (2008).

Hypothesis 5 predicts an association between ownership diffusion and disclosure level on the internet; I found significant negative association surprisingly. In the hypothesis, the sign was predicted as positive. This finding contradicts with (Raffournier, 1995) who found no significant association for ownership diffusion and disclosure level.

Table 5: Multivariate regression analysis results

R Square = .612

Adjusted R Square = .560

F = 11.669

Significance = .000

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
Dependent Variable: TSCORE					
(Constant)	27.564	5.424		5.082	.000
OSHIP	-19.930	6.945	-.321	-2.870	.007
ADTOR	-1.367	3.190	-.059	-.428	.671
PRANK	2.026	1.057	.270	1.916	.063
XKURY	14.179	3.136	.572	4.521	.000
LR	-.368	.398	-.103	-.924	.361
AGE (Debt to TE)					

Conclusion

Regulatory bodies in Turkey such as the ISE and the CMB play an important role in encouraging the utilization of corporate web sites as a communication tool for investors. For example, CMB has issued corporate governance principles in 2003 for the first time and amended in 2005. The principles state that company's website should be actively used as a means of public disclosure. Among principles, significant information to be published on the company's website is provided as well.

The steps taken by regulatory bodies seem to have served the purpose. Because, the percentage of corporate web site existence among the sample companies is 100 percent. It can be said that having corporate web site is a common practice for Turkish listed companies. However, there are variations among sample companies. For example, companies that are customers of Big-4 auditing firms, and are listed in XCORP disclose more information that others. Hence, there is a need to increase the level of information disclosure on corporate web sites, especially, for non-Big-4 and N-XCORP companies. Because, the more information disclosed, the more transparent the firm is.

Furthermore, to test company characteristics that influence information disclosure level, five hypotheses were set up. The results of univariate test indicated significant association between disclosure level and the variables; ownership structure, auditor size, page rank, and being listed in XCORP. But, no significant association was found between disclosure level and leverage. In addition, multivariate analyses proved that ownership structure, page rank, and being listed in XCORP are significant explanatory variables for the disclosure level on the corporate web sites.

What implications the study has for the companies are that they should improve level of information disclosure on corporate web sites, especially in some areas such as investor relations,

corporate governance, and social responsibility. This study sets as benchmark for what to be disclosed on corporate web sites.

Appendix

Table 6: The checklist of disclosure items

ITEMS	COMMENTS
GENERAL ATTRIBUTES	
Graphic images	
Animated graphics	
Sound files	
Video files	
Search box (or link to search page)	
Company profile	
Advertisement of own products/services	
Home page button	
English version of web site	
Quick reach	
Site map	
Security information	
Last update date	
INVESTOR RELATIONS	
Link to investor relations from home page	
English version of investor relations page	
Special condition disclosures	
Press releases/room	
Postal address for investor relations	Accepted if disclosed on investor relations page
E-mail address for investor relations	Accepted if disclosed on investor relations page

Phone number for investor relations	Accepted if disclosed on investor relations page
Communication form	Accepted if disclosed on investor relations page
Responsible person's name for investor relations	Accepted if disclosed on investor relations page
Current stock prices	
Frequently asked questions	Accepted if disclosed on investor relations page
Investors calendar	
FINANCIAL REPORTS	
Annual report	
Quarterly reports	
Balance-sheet	
Statement of income	
Statement of cash flow	
Changes in shareholders' equity	
Notes to financial statements	
Analysts Reports	
Dividend distribution table	
Auditors' reports	
Audit committee report	
GENERAL ASSEMBLY	
Agenda & invitation	
Meeting minutes of general assembly	
List of participants of general assembly	
Proxy voting form	
CORPORATE GOVERNANCE	
Number of clicks to get to corporate governance information	1 click or 2 clicks from home page
Chairman message	
Board members	
Audit committee	

Ownership structure

Preferred shares information

Articles of Association

Prospectus & Circulars

Trade registry information

Dividend distribution policy

Code of ethics

Disclosure policy

Disclosure of insiders

Corporate governance rating report

Corporate governance compliance report

SOCIAL RESPONSIBILITY

Number of clicks to get to social responsibility information   1 click or 2 clicks from home page

Education

Culture and art

Environment

Sport

Foundation

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ROADMAP TO FUTURE MANDATORY APPLICATION OF IFRS IN JAPAN —FROM THE PERSPECTIVE OF FINANCIAL STATEMENTS PREPARERS

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Abstract

After ten years' efforts on producing high-quality accounting standards which can represent Japanese style of business activities and on exploring its own way to converge with global financial reporting standards, Japan makes a major step forward towards adopting International Financial Reporting Standards (IFRS) by publish the Interim IFRS Roadmap. This shows a stance for acceptance of adoption. However, there are still quite a lot issues to be taken into consideration before the last determination of mandatory application of IFRS is made. The current research explores these issues from the perspective of financial statements preparers— in this paper, accounting managers or CFOs in leading Japanese companies which are most possible to be subject to mandatory application. The background of Japan' stepping towards adoption is introduced, the feature of Japanese accounting that might influence the adoption by Japanese companies are analyzed. Based on the this, a survey was made investigating their opinions on IFRS implementation, as well as the source of finance of and actual application in these companies at the present time. The results of the survey acquired in the current paper are expected to have implications for regulation making and IFRS adoption training programming.

1．**Introduction**

The current research tries to investigate issues concerning the adoption of international accounting standards (refers to IAS or IFRS) from the perspective of financial statements preparers.

When we were preparing this paper, the "Interim Report: Application of International Financial Reporting Standards (IFRS) in Japan" (the "Interim IFRS Roadmap") was published which is based on the exposure draft published on February 4, 2009. It seems that after ten years' efforts on producing high-quality accounting standards which can represent Japanese style of business activities and on exploring its own way to converge with global financial reporting standards, Japan makes a critical step forward towards adopting International Financial Reporting Standards (IFRS). The main points of the report concern the acceptance of voluntary adoption of IFRS in consolidated financial statements from fiscal years ending 31 March 2010 for "companies with global financial / operating activities" and the considerations for the possibility of mandatory application of IFRS in Japan.

As we know, there are two-pronged approaches to achieving a single set of global accounting standards: adoption and convergence. Japan, as well as U.S. has been regarded as examples of convergence countries. However, The Interim IFRS Roadmap indicates a future approach foreseeing the possibility that IFRS can be used and that Japan should adopt IFRS in some way in the future. Therefore, the issuance of the Initial IFRS Draft Roadmap would signify great regulatory change and proposes some important issues that should be considered and dealt with. For example, before the final decision on mandatory adoption is made, questions such as whether to adopt IFRS in both consolidated financial statements and non-consolidated financial statements or only adopt IFRS in consolidated financial statements, what kind of companies should be required to prepare financial statements in compliance with IFRS, the incentive and obstacles of companies to implement IFRS and other related questions should be answered based on comprehensive investigation. Since these issues are closely related to

preparers of financial statements, it is relevant to explore their understanding of IFRS and opinion towards the adoption of IFRS and preparation for the application.

We made the survey investigating leading Japanese companies' view on IFRS application before the publication of the Initial IFRS Roadmap when Japan still stood on the crossroad of convergence and adoption. We aimed to provide evidence for adoption or against adoption from the standpoint of preparers of financial statements. However, this result of our survey is also quite relevant right now because it provides reference for the issues proposed in the Interim IFRS Roadmap. The result of the survey is expected to provide implications for future standards setting concerning mandatory application of IFRS and provide evidence for the establishing training and supporting program for the application of IFRS in Japanese companies.

The following section firstly introduces background of Japan moving towards IFRS adoption to indicate the importance of strategy about the structuring of accounting system based on comprehensive understanding of situation of Japanese company and accounting context. Then section 3 specifies the significance of Interim IFRS Roadmap and important issues concerning adoption that is to be taken into consideration. In section 4, the most important influential factors that effect accounting practices of Japanese company, the feature of Japanese accounting and difference between IFRS and Japanese GAAP which direct relate to the problems concerning application of IFRS in Japanese companies. In section 5, based on the analysis in section 3and 4, we investigate Japanese managers' opinions on issues concerning IFRS application and the perceived proper way of application. Finally, some problems facing companies will be identified and concluding remarks are provided. .

2. Background --Accounting development towards adoption

Since 1997, Japanese government made the decision on the basic policy of Japanese Financial Big Bang, trying to sweep away the lack of transparency that has been said to characterize the Tokyo market and to improve the globalization by a constant devotion to global standards instead of a focus on domestic logic. In the following ten years, Japan has conducted

extensive reforms in its accounting system and commercial code towards the International standards, which is well known as "Accounting Big Bang". By these reforms, Japanese accounting becomes quite similar to the IAS / IFRS. Notwithstanding, there are still some difference left in specific accounting standards.

However, since there was a lack of a clear strategy about the structuring of the accounting system, the regulator's opinion towards IAS/IFRS adoption kept changing. In 2002 and 2003, Japanese Financial Services Agency, the Ministry of Justice and Nippon Keidanren[395] expressed negative opinion towards the adoption of IAS. In contrast, there appeared a international trend of convergence with IFRS during that time and this trend spread since then. On 29 October 2002, the International Accounting Standards Board and the US Financial Accounting Standards Board jointly issued a memorandum of understanding formalizing their commitment to the convergence of US and international accounting standards. Moreover, in the following year 2005 which might be seen as the beginning of a new era for financial reporting, International Accounting Standards (IAS)/ International Financial Reporting Standards(IFRS) were required to be applied in EU countries. Then in this trend, in Japan on March 2005, a joint project on the convergence of Japanese GAAP and IFRS was established to analyze and discuss the equivalent of Japanese GAAP and IFRS (Koga and Rimmel 2006). Nippon Keidanren changed its opinion in favor of convergence with IAS in 2006, 3 years after they expressed negative opinion towards adoption. But there was still no real progress. In 2007, the publication of SEC's *Concept Release on Allowing U.S Issuers to Prepare Financial Statements in Accordance with International Financial Reporting Standards (the Concept Release)* and its proposal, *Acceptance from Foreign Private Issuers of Financial Statements prepared in accordance with International Financial Reporting Standards without Reconciliation to US GAAP*, made Japan find itself dropping out in the global trend. Therefore, generally speaking, after the

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[395] Nippon Keidanren (Japan Business Federation) is a comprehensive economic organization born in May 2002 by amalgamation of Keidanren (Japan Federation of Economic Organizations) and Nikkeiren (Japan Federation of Employers' Associations). Its membership of 1,662 is comprised of 1,343 companies, 130 industrial associations, and 47 regional economic organizations (as of June 22, 2007).

Big Bang, Japan seems lagged behind compared with its European and US counterparts in converging with IAS / IFRS. The changing opinion of the regulators seems to caused by external influences of international trend and the lack of strategy based on comprehensive understanding of the state of Japanese company, its accounting environment .

3. The publication of Interim IFRS Roadmap

What represent Japan's major step towards adoption is the publication of the "Interim IFRS Roadmap" which represents positive attitudes of the Financial Service Agency towards the adoption of IFRS. The Business Accounting Council (BAC), a key advisory body to the Commissioner of the Financial Services Agency (FSA), approved the roadmap for the adoption of International Financial Reporting Standards (IFRSs) in Japan. Sir David Tweedie, Chairman of the IASB commented on announcement:

this is a landmark decision, both for Japan and for IFRSs. For Japan, it signals the eventual adoption of IFRSs. For the IASB, adoption of IFRSs by the world's second largest national economy underscores the truly global nature of IFRSs and the acceptance of these standards by all major economies.

In the Interim IFRS Roadmap, continuing convergence is emphasized. At the same time, the directions for Japanese GAAP are indicated, covering topics on issues concerning the application of IFRS in Japan and the required approach. These issues include optimal application and considerations for the mandatory application of IFRS in Japan, for example, scope and methods for mandatory application, treatment on non-consolidated financial statement and etc.

One of the arguments for adoption of IFRS is that adopting IFRS can improve the comparability of accounting information and improve the transparency. The mission of IASB is to develop a single set of high-quality, global accounting standards that are accepted worldwide. Though IFRS provide possibility to improve the comparability, it should be noted that

comparability should not be confused with uniformity as comparability means that like things should look alike and different things should look different(Barth 2008). It is obvious that there are major international differences existing in accounting practices and the possible causes of differences might not be completely deleted even if we adopt the international accounting standards(Alexander, and Nobes 2009). Therefore, IFRS, if to be adopted in Japan, must faithfully reflect the economic reality of businesses and trade practices in Japan, as well as the global financial and capital market. So the continuing convergence is still emphasized in the Interim IFRS Roadmap.

On the other hand, though the interim IFRS Roadmap show a stance of acceptance of IFRS, there still left a lot of problems to be tackled including the above issues indicated in the report because of existing differences between IFRS and Japanese GAAP and the cause of the difference which may not be deleted entirely. As we know, accounting standards can be regarded as fully functional only if financial reports are appropriately prepared. Therefore, when the way of adoption, especially mandatory application is to be determined, the feature of Japanese accounting, the situation of Japanese companies, the difference between IFRS and Japanese GAAP, and other related issues should be understand, just as it is made clear in the Interim IFRS Roadmap:

……*Japan must be prepared to take on the issue of mandatory application of IFRS from a broad range of perspectives, defining the path to be taken in the case of making the use of IFRS by a certain range of Japanese companies mandatory, while attending to the various aforementioned conditions in Japan and abroad*……

4. The feature of Japanese accounting

In this section, we will analysis the major environmental factors that influence companies' accounting practices – to be specific, factors that directly influence the incentive to implement IFRS, the feature of Japanese accounting, and the major difference between IFRS and

Japanese GAAP so that we can acquire an understanding of relevant issues which should be considered in making the final decision on whether and how IFRS should be required to be complied with.

First, a large list of possible causes of international differences can be found in the writings of previous researchers (e.g. Choi and Meek, 2005, Nobes C and R Parker, 2008). For example, the most frequently referred factors that might influence the accounting development are cultures, legal environment, providers of finance, taxation, profession of accounting profession and other external influences such as economic, political events and international influences. Though international influence seems to be the most influential factor which spurred the adoption of IFRS in a world wide scope, in both countries with a strong equity market and weak equity market, however accounting standards are not set to follow the fashion.

Among all the above factors that affect accounting development, financing system, to be specific, the providers of finance, apart from international influences has been regarded as the main explanatory variable for the most important international differences in financial reporting. In countries, where capital provided by banks or family company is very important, the banks or family company may nominate directors and thus be able to obtain restricted information and to affect decisions. In this case, the need for published information is much smaller because of this access to private information. In other countries where the major source of corporate finance has been the share capital and loan capital provided by large numbers of private investors, especially foreign investors, there is relatively strong requires for unbiased information about the success of a business and its state of affairs. It is reasonable to assume that companies with different capital structures might have different opinion on IFRS.

Japan seems to be a unique case. It has a fairly important equity market, although not as important as that in the US or the UK. Furthermore, many Japanese companies own shares in each other, and so the total number of listed companies and market value is exaggerated when making an international comparison. Thus, to understand the major finance resource of

Japanese company and their perception on the importance of domestic and foreign equity market is a way to decide whether there is a need for mandatory adoption.

Second, Japan accounting has both German and US features. The Japanese accounting system consists largely of a commercial code borrowed from Germany in the late nineteenth century, overlaid with US-style securities laws imposed in the late 1940s. Japan accounting standards are characterized as rule-based which are similar to U.S. GAAP, while contrast to IFRS which are characterized as principle-based. In converging an accounting standard to the IAS, there are two approaches: the"Principle based approach" and the " Rule based approach". Under the former, the accounting standards are set based on general principles and the professional judgment of the financial statements makers while under the latter the accounting standards are set based on more detailed and clear rules. Continuing convergence with IFRS should solve the confliction between rule-base and principle-based accounting standards. On the other hand, complete adoption of IFRS might mean a change from rule-based to principle-based accounting standards which are assumed to have great impact on financial statement preparers.

Third, the major difference in accounting standards between IFRS and Japanese GAAP are concerning recognition of revenue, R&D, financial instrument, lease accounting and etc. These differences are rooted in basic accounting idea in the two set of accounting standards. The basic ideas of IFRS are principle-based, statement of financial position-focused, and fair value accounting, while Japan accounting are rule-based, attach great importance to income statements. While the resulting concrete differences in standards have different importance to Japanese companies, it is relevant to understand the relative importance of all the difference in accounting standards.

5. Investigation on manager's opinion on IFRS adoption

With the above consideration in mind, we made a survey trying to acquire some knowledge on the necessity of adoption and possible problems concerning adoption from the view of financial statement preparers – in this paper, we refer to CFO and accounting managers of Japanese companies. In a postal questionnaire, we asked questions investigating their understanding of and attitude towards IFRS adoption and present situation of IFRS application in Japanese companies.

5.1 structure of investigation questionnaire

Since provider of finance is one of the most important factors that influence the accounting practice, it is helpful to know the capital structure and major finance sources of investigated companies. It is also relevant to understand how the accounting managers are prepared for adoption, for example to explore how important they think of the difference in accounting standards between domestic accounting standards and IFRS, how they prefer IFRS to be adopted, present adoption of IFRS in their company, the difficulties or other considerations that concerning the application of IFRS. Furthermore, as Japanese accounting are rule-based while IFRS are principle based, if IFRS is to be adopted, this contradiction should be relieved. It is also important to understand the accounting manager's opinion on principle-based and rule-based accounting because the character of accounting standards directly affects manager's judgment and their accounting practice. Therefore, our questionnaire was made up of four parts:

(1) Major finance sources and users of financial statements

(2) attitude towards and opinion on the adoption of IFRS

(3) the present situation of IFRS application

(4) The convergence approach of accounting standards

5.2 Sample selection and collection of responses

The sample selection and collection of responses of each investigation are summarized as follows. The investigation selected 500 companies within which 67 are Japanese companies according to the sales rank of Fortune Global 500 of 2007. The questionnaires were sent to the CFO or senior managers of these companies. 115 useful responses were received (the response rate 23%) within which 57 are Japanese companies (response rate is 89%). In the current paper, we only analyze the data of Japanese companies. The companies which are permitted to optimally apply and are possible to be required to apply IFRS to their financial statements in the Interim IFRS Roadmap are those which have global financial or business activities. The investigated companies are possible to fall into the scope of optimal application and future mandatory application of IFRS.

5.3 Results and analysis

The respondent percentages reported in this paper are based upon the total number of responses to the questions. The design of the questionnaire allowed multiple answers for some questions. Consequently, the combined responses for some questions may exceed 100 percent.

(1) Major finance sources and users of financial statements

The first question asked the managers' views on the importance of domestic and overseas stock markets to their companies, as well as the importance of the stock market and bond market. 5 point Likert scale was used for measurement ranging from 1= not important at all, 3=not so important. 5= very important).

As is shown in Figure 1, domestic market was regarded by the largest category, 65% respondents, as being very important to their business activities. 42% respondent indicated that domestic bond market was very important. 23% respondent rated the overseas stock market as either important or very important. Though the majority of respondents rated the overseas

2163

markets not as of the same importance as the domestic markets, in general, they do regarded

overseas market as important.

Figure 1   Importance of markets to Japanese business operations (2008)

Table 1   Importance of Markets

	2008 average
Domestic stock market	4.508772 (n=57)
Domestic bond market	4.175439 (n=57)
Overseas stock market	3.614035 (n=56)
Overseas bond market	3.54386 (n=56)

Compared with domestic market, the perceived less importance of overseas markets may

suggest that Japanese companies are relatively lack of attention to overseas users of financial

statements that may lead to the lack of incentive to adopt international accounting standards.

To confirm this, the second question in the questionnaire use 5point Likert scale as previously

described, to sought how CFOs or senior managers view on the importance of financial

statements to various users.

Figure2　Perceived Importance of Financial Statements to Users (2008)

Table2　Comparison of Perceived Importance of Financial Statements to Users

	2008 average
Domestic institutional investors – stock market	4.631579 (n=57)
Domestic institutional investors – bond market	4.157895 (n=56)
Domestic individual investors – stock market	4.263158 (n=57)
Domestic individual investors – bond market	3.839286 (n=56)
Overseas institutional investors – stock market	4.385965 (n=57)
Overseas institutional investors – bond market	3.982143 (n=56)
Overseas individual investors – stock market	3.614035 (n=57)
Overseas individual investors – bond market	3.321429 (n=56)

Table 2 shows that the respondents as a whole think financial statements are important to most of the users. Generally, the respondents expressed an assessment that financial statements are more important to domestic investors than overseas investors. Even for overseas investors, financial statements are important. 42% respondents think that financial statements are very important to individual investors in stock market, while 70% think that the

financial statements are very important to institutional investors. But for investors in the

overseas stock market, 60% respondents think financial statements are important to institutional

investors while only 26% regard them to be very important to individual investors.

We had made a similar survey in 1997, by comparing the result, we find that the managers'

perception that financial statements are most important to domestic institutional investors

compared to other users kept unchanged during the past decade .

We also investigate the foreign ownership of each company.   Almost 10% respondents

stated that their overseas investment are 0 percent while 48% respondents, the largest group,

stated that the foreign ownership is within "1～10％", 12% respondents choose "11%~20%",

20% respondents choose "21%~40%", while 10% respondents said their foreign ownership is

"over 40%".

(2) Attitude towards and opinion on the adoption of IFRS

The fourth question asked the respondent ways by which they prefer IFRS to adopted. There

are show three options. The three options are (1) only adopt IFRS or US GAAP, (2) use both

IFRS (for overseas use) and Japanese GAAP (for domestic use), (3) use international

accounting standards as supplementation to Japanese GAAP. 41% respondents preferred to

adopt only IFRS as the basic financial statements standards. 29% respondents preferred to use

IFRS as supplementation to Japanese GAAP. Those who selected to use both IFRS and

Japanese GAAP only occupies 11%, that may be resulted from the high cost of using double

standards and the complication of practices.

Then, the survey asked the respondents' understanding of the difference of IFRS and

Japanese accounting standards.

Figure 3 Importance of IFRS versus Japanese GAAP Difference by Areas

Table 4   Importance of Differences in Accounting Standards between Japanese GAAP and IFRS

Accounting standard	2008 (average)	Accounting standard	2008 (average)
Goodwill	4.636364	Allowance	3.545455
Comprehensive income	4.327273	Fixed tangible assets	3.509091
The recognition of revenue	4.018182	Consolidated/SPC	3.490909
Business combination	3.981481	Investment property	3.363636
R&D	3.857143	Foreign currency	3.127273
Financial instrument	3.636364	Lease	2.872727
Impairment *		Employee payment*	

*additional indication by respondents

The results show that differences between Japanese GAAP and IFRS which are thought to

the most important are standards for goodwill, comprehensive income, recognition of revenue.

The different in accounting standards for business combination and R&D are also regarded as

important.   In addition to those listed in the questionnaire, some respondents indicate that

significant differences existing in accounting for standards for impairment and payment to

employee are also important.

We also asked respondents to state their opinions on the change concerning the application

of international accounting standards 5 years from now. Most of the respondents expected that

IFRS would be increasingly used only in consolidated financial statements or in both

consolidated and parent company's separated financial statements. The minority of the

respondents considered that IFRS would be adopted only in the parent company's account or

and as well as supplementary disclosure. If the expectation of these respondents is correct,

they will need to plan for the switch to IFRS.

Table 4 Expectation of Future Application of IFRS

	2008 average
Application only in Consolidated financial statements	1.5818 (n=55)
Application only in parent company's separate financial statements	2.3208 (n=53)
Application in both consolidated and parent separate financial statements	1.8545 (n=55)
Application only in supplementary disclosure	2.4717 (n=53)

The survey then asked whether the respondents agree with the statement that it would be

difficult to change from Japanese GAAP to IFRS. As is illustrated in the following figure, 55%

respondents think that it would be difficult to change from Japanese GAAP to IFRS.

Figure4   Views on whether changing from Japanese GAAP to IFRS will be difficult (2008)

(3) The present situation of IFRS application

Only 2 out of 57 usable respondents reported that they are currently adopting IFRS when

asked. There are other 2 Japanese companies answered that they are going to adopt IFRS

though they are not using at the moment. However, the vast majority(93.0%) of the respondents

noted that IFRS are not being adopted and they are not sure whether they will adopt it or not in the future.

　　We asked respondents who indicated that they are not yet adopting IFRS to explore the main reason why IFRS were not being adopted. The reasons suggested by respondents are as follows: (1) the cost is too high (10.5% respondents)、(2)there is inadequate staff training system(24.5% respondents)、(3)the international accounting standards are inconsistent with Japanese accounting standards (38.5%respondents)、(4)there is little benefit from the adoption of International accounting standards (22.8%respondents)、(5)it was not legally required to adopt IFRS (52.6% respondents)、(6)others (14.0%respondents）。Multiple choices are allowed. And respondents could cite other reasons. It became clear that the lack of legal requirement is the main reason for the uncertainty in the future adaptation of IFRS.

　　We then use the 5 point Likert scale to measure the respondents' perceived importance concerning the benefit of adopting IFRS. The expected benefits are: (1) improve the trust and understanding of securities investors, （2）improve the trust and understanding of bond investors, (3) make it easier to issue securities in international markets, (4)reduce the cost of raising bond capital, (5)improve the international image of the company、(6) reduce the barriers to list in overseas stock market,(7) to reduce the cost of making financial statements. The majority of the respondents perceived that the most important benefits of IFRS adoption were to make it easier to issue securities in international markets(61%), " improve the trust and understanding securities investors"(58%), "reduce the barriers to list in overseas stock market"(51%). It is obvious that the greatest benefit of IFRS adoption is related to international market, international status and international fund-raising. Only 9% respondents think "reduce the cost of making financial statements" as important or very important factors.

　　It is interesting that the perceived benefits over years changes. To be specific, respondents in 2008 investigation think more negatively about the IFRS adoption and they perceived less

benefit than those did in 1997. For example, in 1997, Japanese managers regarded "improve

the trust and understanding of stock investors" as very important benefit while in 2008 they did

not attached great importance to it. One of the reasons for it may be that the managers have

fully realized the achievement of accounting convergence towards IFRS through the Accounting

Big Bang after 1997.

Table 5   Perceived benefit of IFRS adoption

	2008 average
Improve the trust and understanding of stock investors	3.754386 (n=57)
Improve the trust and understanding of bond investors	3.684211 (n=57)
Make it easier to issue securities in international markets	3.929825 (n=57)
Reduce the cost of raising bond capital	3.245614 (n=57)
Improve the international image of the company	3.473684 (n=57)
Reduce the barriers to list in overseas markets	3.789474 (n=57)
Reduce the cost of making financial statements	2.263158 (n=57)

Then the questionnaire asked the accounting managers to state their perception on the

relationship of cost and benefit. The respondents showed some kind of skeptical about the

benefit of IFRS adoption. Indeed, 63% respondents thought that cost would exceed benefit,

while 15% indicate that cost would almost equal benefit, only 1.8% expected that benefit would

exceed cost should the IFRS be adopted.

Figure 5 Cost-benefit analysis of IFRS adoption (2008)

- benefits greatly exceed costs
- benefits slightly exceed costs
- benefits equal costs
- costs lightly exceed benefits
- costs greatly exceed benefits

(4) The convergence approach of accounting standards

Furthermore, as for the approach – by principle-based approach or rule-based approach— to adopt international accounting standards, 60% respondents regarded principle-based approach as more appropriated. The main reason was described as the accounting under principle standards reflects the substance of economy and it is easier to implement IFRS in practice because detailed rules which might impediment usage of IFRS in Japanese context. In contrast, only 25% think rule-based approach is better with the main argument being that the accounting method is clearly prescribed so that it is easier for compliance in practice and the comparability of accounting information will be improved.

4　Conclusion

The present research investigated issues concerning the application of IFRS in Japan from the perspective of managers of Japanese companies—the preparers of financial statements.

In the first 3 sections of the paper, we have indicated that provider of finance, difference in the basic idea and concrete standards between the IFRS and Japanese GAAP might influence the financial statements preparer' application of IFRS. These aspects should be taken into consideration when the scope and approach of mandatory application of IFRS are to be decided. By investigating the major finance of leading Japanese companies, the manager's opinions on adoption, and present adoption by Japanese companies and reasons for no adoption, we get to know:

(1) Over half of these largest companies have rather low foreign ownership (less than 10%). It is obvious that the greatest benefit of IFRS adoption is related to international market, international status and international fund-raising. Thus the Japanese companies expressed an assessment that financial statements are more important to domestic investors than overseas investors. Though the majority of respondents rated the overseas markets as being not so important relative to the domestic markets, in general, they still regard overseas financing market as important.

(2) The major differences in accounting standards concern recognition of revenue, R&D, lease and financial instrument, while the differences thought to the most important by Japanese companies are standards for goodwill, comprehensive income, the recognition of revenue. The different in accounting standards for business combination and R&D are also regarded as important.

(3) Most of the respondents expected that IFRS would be increasingly used only in consolidated financial statements or in both consolidated and parent company's separated financial statements.

(4) The main reasons why Japanese companies have not adopted IFRS include that there is not legal requirement that IFRS be adopted, there are inconsistence exist between IFRS and Japanese GAAP and inadequate training system. The reason why Japanese companies show negative attitude towards IFRS adoption may be that the Japanese managers expect that the application of IFRS would be difficult. Furthermore, with the convergence of Japanese standards with IFRS, Japanese companies in 2008 are more confident to prepare their financial statement under the domestic standards than before. Even without adopting IFRS, they assume that they can get the trust and understanding of investors. And Japanese managers expected that the cost would exceed the benefit for IFRS adoption.

(5) Principle-based accounting is thought to superior to rule-based accounting by managers of

Japanese companies.

The above survey results provide some implications for regulation consideration and training programming. The following points call attention of regulators.   Firstly, though the globalization of Japanese economy and the filtering global standard (accounting standards, corporate governance) has made steady progress, Japanese companies still kept prudent and passive in IFRS adoption. This may be connected with the relative low foreign ownership in leading Japanese companies. Though the investigated companies are all leading companies in Japan, the fund-raising policies and proportion of foreign ownership are various. The Initial IFRS Roadmap suggests a phase-in approach based on criteria such as the gross market value of each company-- a scheme proposed in the US roadmap, the survey result may suggest for the phase-in approach based on criteria of both foreign ownership and gross market value, as the greatest benefit of IFRS adoption is related to international market, international status and international fund-raising.

Secondly, one of the most important considerations concerning adoption of IFRS is that the cost of adoption is expected to excess the benefit. The adoption of IFRS does not only influence accounting practice, it also has an effect on other aspects of business such as the operating process, management system, strategy making. For example, we have known that there are differences in two set of accounting standards, one of which concerns standards for revenue recognition. In Japanese GAAP, sales revenue is recognized at the time of shipment, while IFRS prescribe that sales revenue can be recognized when risk and benefit of the goods have been transferred to the buyer so that the revenue may not be recognized at the shipment time. If IFRS is required to be adopted, Japanese companies which have recognized sales revenue on a shipment basis might have to change the time of revenue recognition. This might result in changes in the internal control system, information system, distribution system of the company and the amount yearly sales revenue which further influence the business plan and strategy. These costs are beyond the direct costs only related to accounting system. Cost-benefit tradeoff

is one of the most important considerations of preparers of financial statement so that it should also be important issues to be considered in deciding mandatory application.

Furthermore, lack of training system has been regarded as an important cause of Japanese companies' prudent attitude towards IFRS. The training should not only concentrate the detailed accounting standards, but also include content concerning the total influence IFRS adoption might have on the whole business. Moreover, principle-based accounting standards are regarded by a majority of companies as reflecting economic substance, thus to be superior. However, it requires higher judgment capacity of preparers of financial statements. This not only requires a comprehensive training program but also increases the cost of adoption.

In addition, the investigated companies has indicated several differences in accounting standards that are important to their companies-- goodwill, comprehensive income, recognition of revenue, which imply that in making a decision on mandatory application regarding whether to apply IFRS as developed by the IASB or to make partial modifications or exclusions of IFRS, not only the content of IFRS and the status of the setting of IFRS should be reviewed, but also these influence on Japanese companies should be carefully investigated.

The current paper is written mainly from the standpoint of preparers of financial statements. There are other perspectives should be taken into consideration when deciding application scope and methods for example the standpoint of accounting information users, auditors and other interested parties. In addition, research shows some evidence that the adoption of IFRS itself does not lead to high-quality information. Therefore, adoption will not necessarily lead to increased transparency and the trust of accounting information. Effective enforcement combined with high quality standards leads to high value relevance information. Strong equity market is connected with strong investor protection. Overall, international value-relevance of accounting information studies provide some support for the argument that accounting information is more value-relevant in countries with strong legal protection of outside investors(Habib 2007). Japan has a unique equity market and accounting system which is

discussed in section 4, therefore adoption of IFRS should also be supplemented with

consideration of enforcement which can be analyzed in other future papers.

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COMPANY CHARACTERISTICS, DOMINANT PERSONALITIES IN BOARD COMMITTEES AND INTERNET FINANCIAL DISCLOSURES BY MALAYSIAN LISTED COMPANIES

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Abstract

This paper investigates whether the internet financial disclosure can be explained by company's characteristics and dominant personalities in board committees of Malaysian listed companies. Ten hypotheses were tested using data collected from 194 Malaysian listed companies' websites. Specifically, this paper examines the relationship between the internet financial disclosures (IFD) and ten variables namely internationality, leverage, foreign shareholders, level of technology, firm age, and number of shareholders, listing status, dominant personalities in the audit committee, chairman of audit and nomination committees. It is found that level of technology, firm age, number of shareholders and listing status significantly affects the level of IFD. However, the dominant personalities in the audit and nomination committees affects negatively on the level of IFD in Malaysia. The study provides some evidence to support signaling theory and cost and benefit hypothesis in relation to internet disclosure.

Keywords: Internet reporting, Dominant Personalities, Board Committees, Internationality

Introduction

Since 1990s, companies are utilizing the Internet as a medium to disclose their information. Currently, the level of Internet disclosure varies between companies worldwide. This phenomenon has attracted many academic researchers in the disclosure field. It is argued that Internet reporting is the efficient instrument to communicate information to the external users at a minimum cost. Information on the Internet can be presented in different forms of dynamic presentations such as draws, multimedia, audio, video and others (Ettredge et al., 2002; Ashbaugh et al., 1999).

Despite the growing usage of Internet by companies, professionals and practitioners, but researches perceive that IFD is still in its infancy in the developing countries such as Malaysia (Hassan at el, 1999; Noor Azizi et al., 2000; Mitchell and Ho Wern Pei, 2000; and Khadaroo 2005). Therefore, this paper aims to investigate factors that influence the extent of IFD in Malaysia. The remainder of this paper is structured as follows. Section 2 provides overview of IFD development, while section 3 reviews the factors that affect the IFD. The research method is described in section 4. Section 5 presents the results of this research. Finally, section 6 provides the conclusions, limitations, and recommendations for future research.

The Development of Internet Financial Disclosure

The nature and the extent of the disclosure problem involves a consideration of the persons to whom the disclosure is being made, an assessment of user needs and the medium of disclosure which is used to communicate with the user groups (Kreps, 1990). The main concern is that accounting reports should disclose information which is necessary to the users so that they would not be misleading (Moonitz, 1961).

It has been argued that equity markets require comprehensive and transparent disclosures of the firm's value and their performance in order to run efficiently (Levitt, 1999; and Richardson and Welker, 2001). Theoretically, the level of disclosure should benefit the firms by lowering the cost of capital. The decrease in the cost of capital is results from two factors; first, the higher the disclosure by the firms the less transaction costs for investors and in turn creates greater liquidity of the market and greater demand for the firm's securities (Diamond and Verrecchia, 1991). Second, the additional disclosure reduces the risk estimation or the uncertainty regarding the distribution of returns (Clarkson et al., 1995).

Portes and Rey (2005) argue that companies started to report via the Internet as the traditional paper-based disclosure has its limitations. The increase in global investments and investors results that the paper-based disclosure becomes more expensive and limited in capacity to reach investors in a timely manner. In contrast, the Internet disclosure has been found cost effective, fast, flexible in format, and accessible to all types of users within and outside national boundaries (Debreceny et al., 2002). Thus, the Internet has more advanced benefits than other media of disclosures such as newspapers, journals or other printing media. The Internet offers easy and equal access to all firms' information users and presents the image of the firm that the firm would like to be on the eyes of the Internal or external parties. Thus, the more information disclosed by a firm, the more chances the firm will be noticed by potential shareholders and investors.

In a more advanced usage of the Internet, some companies employ technological advances to display information such as streaming audio and video on their websites (Rosli Mohammed et al. (2003). Streaming audio allows interested individuals to listen to analysts' conference classes, annual meetings and similar presentations; to broadcast conference calls live; or to provide an

archive of presentations from which the Internet user can select. Some companies also provide video together with the streaming audio (Hurtt et al., 2001).

In addition, it is argued that the investors who are concerned with return on investment will not use historical financial data as a means to evaluate companies' future performance. Instead they will search and consider recent and real-time indicators of management competence such as the ability of corporation to support and increase customer loyalty and retain and leverage the knowledge of employees (Wheeler and Elkington, 2001).

Debreceny et al. (2002) argued that the primary foundation of IFD is to eliminate the notion of information asymmetry between management and ownership, supported by the view that the level of information asymmetry is an important driver of investor uncertainty. Modern corporations have adopted various mechanisms, including voluntary disclosure, to mitigate the effects of information asymmetry. Empirical studies on voluntary disclosure suggest that managers voluntarily enhance the visibility of their firms' financial profiles to: (1) reduce agency costs or contracting costs (Chow and Boren 1987); (2) reduce the cost of capital (Botosan, 1997), (3) enhance the value of the firm (King et al., 1990; Yeo and Ziebart, 1995; Frankel et al., 1999),(4) enhance the level of transparency (Lodhai, 2004), (5) enhance the communicating with firms' stakeholders (Hassan et al., 1999), (6) record higher market liquidity (Welker, 1995), and (7) increase interest shown by institutions and analysts in the firm's stocks (Lang and Lundholm, 1996; Heldin, 1999). IFD can also improve timeliness and verifiability. Timeliness too can be improved by increasing the frequency of disclosure, since the costs for making such disclosure is low and using devices such as hyperlinks to multiple sources of information can improve verifiability (Debreceny, et al., 2002).

Groff and Pitman (2004) propose three approaches that can be used by the companies to improve the financial section of their website which are as follows:
- Increasing the cases of using technological improvements and website design changes.
- Expanding the types of information provided including conference call, transcripts, speech text and slides, web casting conference calls, investor questions and answers and industry highlights.
- Observing other companies' websites occasionally in order to see what other firms are providing in their websites and to get ideas as what should be included on their own websites.

In short, with the Internet financial reporting, the communication with the investors is expected to be very effective and interactive and in turn adds real value to the stakeholders and facilitates the companies in controlling their marketplaces.

The Determinants of Internet Financial Disclosure

A large number of studies in different countries attempt to find out the determinants of the extent of financial disclosure (see e.g, Tariq, 2001; Da Silva and De Lira, 2004; Hassan et al., 1999; Khadaroo, 2005). They come up with different determinants and factors that may affect the extent of disclosure. These determinants could be in the form of internal determinants such as firm characteristics or external determinants such as regulations and government roles. However, there is no consistency on the findings due to different nature of studies. This encourages the researcher to examine ten variables with the IFD. These determinants are discussed in the following subsections.

Internationality

When an organization becomes famous and known globally, the extent of its information disclosure will be increased due to the increase in foreign stakeholders and the obligation to fulfill different requirements and regulations in different countries (Meek el al., 1995). Meek et al., (1995) examine annual reports of 280 multinational firms in 1989 and find that there are significant differences in financial reporting between international listed companies and local listed companies. The annual reports of multinational companies are more detailed than the annual reports of local companies. Similar results are obtained by Susanto (1992) who analyses the annual reports of 98 listed companies in the Jakarta Stock Exchange in 1990.

Raffournier (1995) finds that the size and the degree of internationalization are related to disclosure practice. Foreign companies tend to comply with the rules of countries in which they operate (Bureau and Raffournier, 1989). Cooke (1992) supports this by saying that internationality is positively related to the extent of financial disclosure. The current study attempts to examine the impact of internationality variable on the IFD. The internationality is measured by using the exports-on-sales ratio (emulating Garcia and Monterrey,1992;

Raffournier, 1995). Therefore, based on the above discussion, the proposed hypothesis to be tested is:

H1: The extent of financial disclosure on the Internet is positively related to the level of International activity of the company

Leverage

The results of the impact of leverage on the extent of voluntary disclosure are mixed. Naser et al. (2002) and Laswad et al. (2005) find a positive relationship between them. It supports the argument that more debts in the company's financial capital push creditors to ask for more information due to higher asymmetry information. However, Chow and Boren (1987) and Ahmed and Nicholls (1994) find no significant association between them. Dichev and Skinner (2002) argue that the inconsistent results are due to the fact that leverage is a poor proxy for a company's risk. This study intends to examine the impact of external debt on the extent of financial performance amongst Malaysian companies. Previous studies have measured leverage in terms of debt to equity ratio (Roberts, 1992; Katsuhiko et al., 2001). Other studies measured leverage by comparing total of long term liabilities to the total of assets (Haniffa and Cooke, 2002; Laswad et al. 2005; Alsaeed, 2005). In this study, leverage will be measured by using the percentage of long term liabilities on the total assets. Based on the above discussion, the study proposed the following second hypothesis:

H2: The extent of financial disclosure on the Internet is positively related to leverage

Foreign Shareholders

Haniffa and Cooke (2002) find a significant positive relationship between foreign ownership and the level of paper-based disclosure. The results support the argument that the higher the foreign ownership in an organization is, the higher the asymmetry information will be. This becomes critical if the regulations of the investment- received country is not understood. This in turn pushes foreign shareholders to ask for more information which is initially not required by the regulations and eventually leads to more voluntary disclosure (Leung, Morris and Gray, 2005).

However, Xiao et al. (2004) find no significant relationship between foreign ownership and Internet disclosure by the companies in China. This discrepancy motivates the researchers to

study the impact of foreign ownership on the extent of voluntary disclosure on the Internet in other countries. This variable is measured by using the ratio of total shares that are owned by foreigners to total number of issued shares (Haniffa and Cooke, 2002).

Based on the above discussion, the proposed hypothesis to be tested is as follows:

H3: The extent of financial disclosure on the Internet is positively related to the existence of foreign shareholders.

Level of Technology

The existence of technological services in the companies such as department of technology are beneficial to them especially for the Internet disclosure (Lodhai., 2004). The responsibility to maintain the website such as uploading and updating information on the website goes to information technology department of the company. The website, unlike paper-based reporting, has many features and formats such as PDF, hyperlink, audio, video and others that require experts to operate it. This is to ensure that the website provides the needed information properly.

Although the cost to disclose information on the Internet is cheaper compared with other media, the web setting and maintaining it is costly (Joshi and Jawaher, 2003; Lodhai, 2004) especially if it is outsourced. Therefore, information technology department is important in order to reduce such costs and to attain ideal information system practice. Debreceny et al. (2002) examine the association between the level of technology and the extent of voluntary disclosure through the Internet and find a significant positive relationship between them.

This study attempts to study the relationship between the extent of Internet financial disclosure and the level of technology in Malaysian listed companies. The involved variable is measured by using dummy measurement. Thus, the proposed hypothesis is as follows:

H4: The extent of financial disclosure on the Internet is influenced by the level of technology.

Firm Age

There are a few studies that concentrate on time factor as a determinant of voluntary disclosure. For example, Haniffa and Cooke (2002) examine the impact of listing age on the level of voluntary financial disclosure amongst Malaysian listed companies. The result is quite surprising whereby the variable shows a high positive correlation with disclosure but not to voluntary disclosure. Similar result is also obtained by Alsaeed (2005). Camfferman and Cooke (2002) in their study also suggest that the age of company may have a significant impact on the extent of Internet disclosure. This is also because of the expectation that old companies might improve their annual report and level of disclosure overtime.

As this variable has never been tested in terms of the level of Internet disclosure, this study aims to examine this variable by counting the number of operating years since the company is listed on the stock exchange. In other words, the impact of the firm age on the extent of Internet financial disclosure will be examined. The proposed hypothesis is as follows:

H5: The extent of financial disclosure on the Internet is influenced by the firm age.

Number of Shareholders

Debreceny et al. (2002) argue that external environment has an important role in the level of internet disclosure. The level of internet usage by the public and the environment of disclosure in the operating country are two important internet disclosure determinants. For the first determinant, if the usage of the Internet is common in one country, the users expect more company information to be placed on the Internet. Similarly, if the companies believe that there is a large internet audience amongst their local stakeholders, they tend to disclose more information on the Internet. Oyelere et al. (2003) find that spread of shareholding has a significant positive relationship with the extent of voluntary financial disclosure on the Internet by New Zealand listed companies. However, Naser et al. (2002) find no significant relationship between the number of shareholders and the extent of voluntary disclosure.

Therefore, it is interesting to examine this variable in the Malaysian context that is to test the impact of number of shareholders on the level of internet disclosure. The following hypothesis is proposed:

H6: The extent of financial disclosure on the Internet is influenced by the number of shareholders.

Listing Status

Wallace, Naser and Mora (1994) examine the impact of listing status on the level of voluntary disclosure amongst Spain listed companies. Multivariate regression analysis was employed to analyze the data. The result shows a significant positive relationship between listing status and the extent of voluntary disclosure.

In Bursa Malaysia, there are two types of listing boards that are main board and second board. The main board companies have a minimum paid-up capital of Ringgit Malaysia (RM) 60 millions while the second board companies are those that have a minimum paid-up capital of RM40 millions in capital in order to be qualified to be listed (Yatim, Kent and Clarkson ,2006). The companies that do not meet the criteria of main board can apply to be listed on the second board. Due to the difference in size and capital, the companies on the main board inclined to disclose more information on the Internet than those that are listed on the second board. This is due to the following reasons:

- The requirements that the company should fulfill if it wants to be listed on the main board. Those requirements are not similar to that of second board such as the level of transparency (Wong, 1996).
- The competition amongst main board companies is stiffer than those on the second board as investors are keen on them (Abdul Samad ,2002).

This variable has never been tested in the previous studies and therefore should be of interest to examine whether the practicing listing status of Bursa Malaysia has any influence on the level of internet disclosure. In other words, this study examines the impact of an organization's listing status in Bursa Malaysia on the extent of voluntary financial disclosure on the Internet. Therefore, the following hypothesis is proposed:

H7: The extent of financial disclosure on the Internet is influenced by firm's listing status.

Dominant Personalities in the Audit Committee

The role of audit committee is critical in the decision making process because it has the authority to examine sensitive issues and irregularities and give report to the board with recommendations. The board ultimately makes decision after examining the report meticulously. The primary objective of the audit committee is to assist board of directors in fulfilling its responsibilities in relation to accounting and reporting practices of the company and its subsidiaries, and to determine the adequacy of the company's administrative, operating and accounting controls (Haron et al., 2005; Cohen et al.,2007). The audit committee also reviews the adequacy and the effectiveness of corrective actions that are taken by the management in resolving reported audit issues and discusses the appropriateness of adopted accounting policies and treatment and assumptions that are raised by the external auditors (Collier, 1997).

It is argued that if the chairman of the company holds several positions in the company's committees such as audit committee then the decision on disclosure will be affected significantly (Mangena and Pike 2004). The chairman may use his/her position to influence such decision. This study attempts to provide empirical evidences regarding this issue by examining the extent of voluntary financial disclosure on the Internet if the chairman of board directors is also the chairman of audit committee of the company. Thus the following alternative hypothesis is proposed:

H8: The extent of financial disclosure on the Internet is influenced if the chairman of board directors is also the chairman of audit committee in the company.

.**Chairman of Audit and Nomination Committees**

The nominating committee has a number of duties and responsibilities that has to be fulfilled. The duties are such as reviewing annually the attendance and performance of the individual directors, reviewing the compensation of directors and makes recommendations to the board of directors as to such compensation, recommending to the board of directors nominees who meet criteria approved by the board of directors for nomination or election as directors, developing and overseeing corporate governance principles for the corporation and performing other duties that may be assigned to the committee by the board of directors overtime (Vafeas, 1999). It is argued that if the chairman of audit committee and nominating committee is not the same person their independence might be enhanced as committees members are "Independent Directors" by

virtue of the rules of stock exchange and in accordance with the corporate governance concepts and policies (Chtourou el al., 2001).

As audit committee and nomination committees are functioning as monitoring committees and in turn influence the process of decision making, an understanding on their role in financial disclosure on the Internet is considered critical. This study aims to examine this theoretical information in a real life setting. To ease this process, the following hypothesis is identified:

H9: The extent of financial disclosure on the Internet is influenced if the chairman of audit committee is also serving as the chairman of nomination committee in the corporation.

Dominant Personalities in the Audit and Nomination Committees

As discussed above, there is a clear demarcation between the function of audit committee and nomination committee. Each committee is responsible for critical and sensitive tasks and therefore must be separated. This is to ensure that the quality of the company's internal control is always at a satisfactory level. The chairman of the company, on the other hand, is responsible for ensuring that the board is always running effectively, the organizational members obtain relevant information and the company's policies are always observed. It is expected that if the chairman of the company is also the chairman of any of audit committee or nomination committee or both, the decisions that are made in both committees will be negatively affected (Shivdasani and Yermack 1999). This may include the decision on the extent of financial disclosure. Since this relationship has not been tested in the previous studies, this research attempts to examine it from the perspective of the extent of financial disclosure on the Internet. Thus, the following hypothesis is proposed:

H10: The extent of financial disclosure on the Internet is influenced if the chairman of board directors is also the chairman of audit and nomination committees in the company.

Research design

This study examines the determinants of IFD by Malaysian public listed companies on the bursa Malaysia's main and second boards. The data for this study is secondary in nature and derived from the information disclosed in the companies' websites. A total of 194 companies which have websites were chosen randomly after excluding banks and financial institutions due to their

different regulations. Furthermore six companies were also excluded from the sample because they were identified as outliers in the initial analysis. Regression Model is utilized to find out the results of this study and this is in tandem with the previous studies (e.g. Chen and Jaggi ,2000; Ho and Wong, 2001; Camfferman and Cooke, 2002; Archambault and Archambault, 2003; Oyelere; Laswad; and Fisher , 2003; Marston and Polei, 2004; Gul and Leung, 2004; and Laswad, Fisher, and Oyelere, 2005).

Descriptive Statistics

 The frequency for IFD index items is shown in Table 1. The table shows that 60%-63% of companies disclose some financial information on the websites. About 62.9% of companies disclose both current release and news operation review items. Another 60.8% of the companies disclose their annual reports and 58.8% of companies disclose financial highlights items. These are the most common disclosed items on the websites. This is followed by the annual reports for the past years (51%), quarterly reports (46.9%) and its contents such as statement of income, balance sheet, cash flow statement and accounting notes. However, only 12.4 % and 7.7% of the companies are concerned with half year reports and performance charts respectively. As this information is critical for the investors, this finding shows a significant deficiency of Malaysian listed companies' financial reporting in the Internet.

Table 1: The Internet Financial Disclosure index (%)

N	Financial characteristics	Frequency	Percent	N	Financial characteristics	Frequency	Percent
1	Current Release or news	122	62.9	9	Cash Flow Statement in Quarterly report	80	41.2
2	Operation review	122	62.9	10	Accounting notes in Quarterly report	66	34
3	Annual report	118	60.8	11	Current share price	47	24.2
4	Financial highlights	114	58.8	12	Financial review	31	16
5	Annual reports for the past years	99	51	13	Financial calendar	28	14.4
6	Quarterly report	91	46.9	14	Half year report	24	12.4
7	Statement of Income in quarterly report	81	41.8	15	Share Performance chart	15	7.7
8	Balance sheet in quarterly report	80	41.2				

2186

Results

In tandem with the previous studies of voluntary disclosure, (e.g. Cooke, 1989b; Hossain et al,1994; Raffournier, 1995), and due to one dependent variable and ten independent variables, multiple regression analysis is used to test the hypotheses after adopting quality tests for normality, correlation analysis and multicollinearity. The results from the regression analysis show that several variables have significant positive relationships with IFD. These variables are level of technology, firm age, number of shareholders and listing status. However, the dominant personalities in the audit and nomination committees show a significant negative relationship with IFD. The rest of the variables do not show significant relationship with the extent of IFD (see Table 2).

Table 2: Multiple Regression Analysis of Determinants of Internet Financial Disclosure

Independent Variables	Predicted sign	Coefficients	t-statistics	VIF
Company characteristics				
Internationality	+	0.053	.947	1.061
Leverage	+	0.068	1.209	1.065
Foreign shareholders	+	-0.049	-.838	1.151
Level of technology	+	0.312	5.434 ***	1.118
Firm age	+	0.250	4.217 ***	1.191
No of shareholders	+	0.217	3.635 ***	1.207
Listing status	+	0.204	3.490 ***	1.156
Dominants personality in Board committees				
Chairman company and Audit Committee	?	-.051	-.616	2.302
Chairman of Audit and Nomination Committee	?	.112	1.264	2.675
Chair. Com, Audit and Nomination Committees	?	-.213	-3.355 ***	1.363
Constant			-3.324	
ANOVA	0.000			
Durbin Watson	1.838			
Std.Error	3.531			
F Value	16.202			
Sig. F	0.000			
R Square	0.478			
Adjust R Square	0.448			

*** significant at 1% level ** significant at 5% level   * significant at 10% level

The productive ability of analysis were $R^2 = 478$ and Adjusted $R^2 = .448$ which is good.

Discussion of Results

The above results suggest that company's characteristics variables: level of technology, firm age, number of shareholders, listing status and the dominant personalities in the audit and nomination committees are significant variables for the extent of IFD in Malaysia. This finding is not surprising for several reasons. Firstly, since the paper investigates Internet disclosure (the most advance technology in communication) it is expected that firms that have technology department are more likely to disclose more financial information through their websites. Secondly, old companies are more familiar with the disclosure practices through the Internet than newly established companies. Based on signaling theory, old firms are generally disclosing more information in order to differentiate themselves from the new ones on the stock exchange (Morris, 1987; Watts and Zimmerman, 1986; Skinner, 1994). In addition, as the old firms have more control over the market, they are in a better position to provide reliable forecasts (Hughes, 1986). Therefore, it is natural that old company discloses more financial information than new one. Thirdly, it is logical to observe that number of shareholders is positively significant with the IFD because the internet has wide coverage and low reporting cost when compared to other printing media. This advantage motivates the companies that have a large number of shareholders to use the Internet as a medium for disseminating their financial information. Fourthly, listing status is a new variable and never been tested before in the previous studies. The results of regression analysis indicate that if the companies are listed on the main board of Bursa Malaysia, they are more likely to have websites and disclose more financial information on them when compared to the companies that are listed on the second board. In other words, there is a gap between the companies that are listed on the main board and the companies that are listed on the second board. This gap in turn influences the level of transparency and the usage of advanced technology such as the Internet. Nevertheless, it is not surprising to observe this phenomenon because of different requirement of Bursa Malaysia in relation to main and second boards. The difference is due to the fact that companies listed on the main board are big companies (financial capitals more than RM60 million), and therefore capture more public and government concern in relation to the level of transparency, technology development and environment. This results in the policy makers of Bursa Malaysia to set more strict requirements and regulations for main board companies. Internet reporting is an option to fulfill all the requirements in cheap and fast manner.

Last, but not least, the results of regression analysis reveal that the level of IFD is negatively affected if the chairman of two committees (audit and nomination) is also the chairman of the

company. In this case the chairman influences the independence of two committees which in turn impede them from fulfilling their responsibilities effectively. This is normally followed by a low level of information being disclosed.

From the analysis, it can be seen that significant support can be found for hypotheses H4, H5, H6, H7 and H10, However, there is no support for hypotheses H1, H2, H3, H8 and H9. Nevertheless, information disclosed involves human judgment element and therefore can never be explained completely by the company's characteristics. Within this context, however, the paper provides some evidence to support signaling theory and cost and benefit hypothesis in relation to disclosure.

Conclusion and future research

This paper examines the relationship between ten variables under two groups (company characteristics and dominant personalities in board committees) and the extent of IFD by Malaysian listed companies. The results provide evidence that there is a significant positive relationship between each of level of technology, firm age, number of shareholders, and listing status and the extent of IFD. However, the dominant personalities in the audit and nomination committees negatively affect the level of IFD. The other variables did not show any significant relationship with IFD. Therefore, it is recommended that Malaysian government should give more consideration to the negative association with the extent of IFD and impose a new regulation that prohibits the executive directors from being the chairman or a member of audit committee in the company. It is also recommended that the establishment of audit committee is mandatory for the listed companies. The criteria for the appointment of the chairman of audit and nomination committee should also be regulated.

It can be concluded that, there are number of procedures that Malaysian government, policy maker in industrial sector, and regulatory authorities may take in order to enhance the level of transparency amongst Malaysian listed companies. The results of this group of independent variables provide the important characteristics in Malaysian companies that motivate them to be more transparent and high technology usage. The regulatory bodies have the opportunity to impose the necessary rules and regulations that obligate companies to take advantages of the internet technology in the business area. This step seems to draw the guideline for Malaysian

listed companies to be in the same direction with the government policy that seeks for achieving developed country plan 2020.

Future research may undertake panel study to examine whether these variables consistently have a significant influence on the extent of disclosure, since this research was carried out for one particular year only.

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TAX KNOWLEDGE DIMENSIONS UNDER SELF ASSESSMENT SYSTEM IN MALAYSIA

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Abstract

Knowledge of taxpayers in taxation is believed to be important under Self Assessment System (SAS). However, due to the nature of taxation i.e. complex and rapid change what should be the composition of necessary knowledge for lay taxpayers is questionable. This study explores specifically on the necessary aspects of knowledge in taxation which permit taxpayers to determine correct tax liability and adhere to the tax laws and regulations as necessitated under SAS. The findings from a survey on tax professional's views are presented with the aim to identify dimensions of individual tax knowledge as the basis to develop tax knowledge measure.

1.0   INTRODUCTION

Empirically, it has been proven that taxpayers; knowledge in taxation is indeed important especially in Self Assessment System (SAS) (Barjoyai, 1992; Hajah Mustafa, 1997). For instance, when the system was first introduced to taxpayers in the United Kingdom, Australia and also Malaysia, it demanded knowledgeable taxpayers to perform the primary function of SAS (Barr, James and Prest, 1977; Mohd Shukor, 1994; Siti Mariam, 1994; Hajah Mustafa, 1998; Loo and Juan, 2005). This so called primary function is mainly related to the operation of income tax which includes determining the correct amount of tax liability and submitting error free return to the tax authority. In contrast, under the former system i.e. official assessment system (OAS), this primary function is carried out by well trained tax officers. However, with the introduction of SAS this function had been transferred to the taxpayers who are not been trained formally to carry out the tasks of the professionals. Thus, it may thwart the main purpose of SAS as its successful implementation relies mainly on the acceptance and cooperation from

taxpayers to perform the said responsibilities (Sandford and Wallschutzky, 1994; Barr et al., 1977; Hajah Mustafa, 1998).

The importance of tax knowledge has attracted many researchers. Recent literatures suggested that tax knowledge is one of the important psychological variables in the tax compliance environment (Kirchler, 2007; Hofmann, Hoelzl and Kirchler, 2008 and Kirchler, Hoelzl and Wahl, 2008). In this regards, the knowledge of taxpayers under SAS is required to ensure the system works smoothly. Apparently, it has been noted that the implementation of SAS, despite its benefits to the taxpayers, has indeed placed an arduous burden on taxpayers especially in term of ensuring that they possess sufficient level of knowledge in taxation (Saad, Mansor and Ibrahim, 2003). In other words, taxpayers will have to learn and understand the tax laws which have been labelled as complex especially for the ordinary taxpayers (McKerchar, 2001). Failure to comprehend the tax laws might lead to the difficulty in performing the required tasks. For instance, it was reported that in the first year of SAS implementation in Malaysia, majority of taxpayers failed to submit accurate tax returns[396]. The similar phenomenon was also reported in Japan when SAS was first implemented (Hajah Mustafa, 1998). As a matter of fact, the issue of whether taxpayers are able to perform their responsibilities has been a central debate among researchers (Jackson and Milliron, 1986; Marshall, Smith and Armstrong, 1997; Sakurai and Braithwaite, 2003). This is because the implementation of SAS requires a complete change in taxpayers' compliance obligations and mind sets.

However, regardless of its complication, SAS has introduced a shift of paradigm in terms of responsibility towards taxpayers' knowledge in regards to the accuracy of their tax returns. SAS introduces a new phase of tax responsibility by transferring the obligation of providing accurate information to taxpayers as the information reveal by them will be accepted as genuine and at

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[396] Sources: www.thestar.com.my/news, 20 May 2005 (Friday)

face value by the tax authority. Under SAS, the tax returns submitted by taxpayers will be deemed as the notice of assessment stating the amount of tax liability. The notice of assessment was issued by the tax authority under the former system. With this shifting of responsibility, taxpayers are required to comprehend relevant knowledge embedded in the tax laws, rulings, regulations, guidelines and administrative procedures in order to fulfil the criteria for appropriate compliance under SAS, which manifested the correct computation of tax liability (Loo and Juan, 2005). This notion indicates that taxpayers face greater responsibilities under SAS as compared to that of under OAS which only requires taxpayers to declare their income and provide relevant supporting documents to the tax authority with regards to their income.

It has been opined that SAS demand time and effort from taxpayers in preparing their tax returns as it is subject to certain level of tax knowledge requires from the taxpayers (Alexander, 1974; James, 1994; Williams, 1999). In addition, information provided by taxpayers is assumed by the tax authority to be accurate and bona fide, hence added pressure for taxpayers in defining accuracy of information revealed. Nonetheless, to reduce the complication of the filing process, tax authority has arranged various programs to educate taxpayers in preparing themselves to carry out the assessment of their income. Taxpayers must be made understand of the sequential steps to compute their tax liability including determining the total income, identifying qualified deductions, understanding taxable income and calculating the tax payable (James, 1994). The sequential steps would be beneficial for taxpayers as it would help them to perform the tasks well and comply voluntarily with the tax laws. Further, it has been viewed that in order to achieve voluntary compliance, taxpayers need to be informed (Singh and Bhupalan, 2001). Apart from seeking knowledge, taxpayers are also required to keep proper documents and records besides understanding the content of the tax returns as a whole (Brand, 1996; O'Connor, 2001; Loo and Juan, 2005).

Many previous studies have addressed the issue of the level of taxpayers' knowledge. However, issue on what constitute tax knowledge for a lay taxpayers is still lacking in the literature. Barjoyai (1992) for instance, highlighted that the features of taxation has made the knowledge more difficult to be comprehended by non-tax background individual. Although taxation has been claimed to be universal, the territorial factors have made tax system diverse. This divergent is mainly due to the different tax application practices in different countries which make it very localized. Furthermore, the rapid change in tax laws has made the individual tax knowledge outdated and less useful. These limitations have made the tax knowledge ambiguous thus highlight the issue of the composition of necessary knowledge requires by taxpayers in order to keep them equipped and parallel with the latest development of tax updates. Hence, to fill up the existence of gap in this field, this paper examines the dimensions of tax knowledge needed by non-business taxpayers[397] in assessing their income according to the requirement of tax laws and SAS. The remainder of this paper is organized as follows: literatures cited to support the study, methodology used to collect data, findings, discussions, recommendation and conclusion of the study.

2.0   LITERATURE REVIEW

Taxpayers' Responsibilities

Under the former assessment system known as official assessment system (OAS), taxpayers are required to declare their incomes in the return form and submit the completed form to the Inland Revenue Board (IRB). The IRB on the other hand is responsible to raise the assessment of the income declared by taxpayers to determine the tax liability for each taxpayer. However, with the introduction of SAS, there is a switch of responsibilities between the taxpayers and IRB officers. Under the new system, the responsibilities of taxpayers have been broadened to include[398]:

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[397] In the first year of SAS implementation on individual taxpayers in Malaysia i.e. year 2004, 86% of Malaysian taxpayers was individual taxpayers and 57% of the total was individual with non-business income (2004 IRB Annual Report).

[398] Source: http://www.netax.demon.co.uk/response.htm (March 16, 2005) and 2003 IRB Annual Report.

- Prepare own tax returns accurately including assessing own income to determine correct tax liability;

- Understand and follow all procedures defined by IRB which include complying to relevant provisions in the Income Tax Act 1967 (as amended) (ITA 1967);

- Inform the IRB of all their financial affairs;

- Interpret IRB schedules and forms;

- Getting their submissions right first time as the self-completed returns are deemed as the notice of assessment;

- Adhere to strict timetables and deadlines which include submitting the returns together with correct tax payment on the prescribed date i.e. 30 April each year or else will be subject to penalties; and

- Keep detailed records and documents pertaining to annual tax computation for the period of seven years.

With the new responsibilities placed on taxpayers, it is viewed that SAS emphasises and works on knowledge-oriented basis. Alexander (1974) listed the necessary aspects for taxpayers to perform their responsibilities which include the following:

- Mathematical accuracy;

- Familiarity of allowable exemptions and deduction;

- The format of tax return form;

- Simple tax laws and regulations; and

- Taxpayer assistance provided by tax authority.

Knowledge on the above-listed are necessary as the preparation of tax returns involves income assessment and computation of tax liability which is considered quite cumbersome (Alexander,

1974; James, 1983). Under the old assessment system, it is the tasks previously carried out by a well-trained person i.e. the Inland Revenue officers who possess the knowledge of an expert.

In Malaysian, the process of assessing income is specified under Section 5 of the ITA 1967. It involves various steps with four main calculations as follow:

      (i)   total income;

      (ii)   total allowable deductions i.e. personal relief;

      (iii)   chargeable income by subtracting (ii) from (i); and

      (iv)   tax payable.

In order to assist and facilitate taxpayers in interpreting the relevant provisions of ITA 1967 correctly, the IRB issues various Public Rulings. Public Ruling is a statement issued to inform the taxpayers of the acceptable manner to interpret certain provisions in the ITA 1967. Each Ruling consists of (i) the relevant tax law that is to be applied; (ii) the application of the Ruling; (ii) the correct manner to apply the law and (iv) interpretation of key words used in that particular Ruling.

It is therefore, in assessing their income, it is compulsory for taxpayers to refer and comply with the Public Rulings. In fact, they are required to acknowledge in the return form whether in completing the form they had complied with the relevant Public Rulings. This is to ensure that they have followed and understood the relevant Rulings governing their tax matters or else the form is considered as inaccurate. A penalty will be imposed if a taxpayer disregarded certain Public Ruling. However, it is not easy for ordinary taxpayers to fully understand the Rulings and

to keep themselves up to date with all the Public Rulings issued by the IRB (Veerinderjeet, 2005)[399].

In addition, taxpayers must keep proper records and documents in order to facilitate them to perform the income assessment tasks i.e. to complete their tax return form correctly. Each item appears in the tax return must be supported with a valid document. For instance, a valid receipt of payment is needed to support the deduction made for purchasing reading materials. The records and documents must be kept for seven years from the last date of each assessment year. They have to be produced upon request by the IRB such as during an enquiry in tax audit. In Australia, it was reported that the record-keeping requirement is the major cost for individuals in complying with their personal income tax obligations (Turner, Smith and Gurd, 1998).

Realizing the responsibilities under the new assessment system, taxpayers might need assistance from tax agents. Based on the Australian experience, taxpayers do need assistance from tax agents upon the implementation of SAS. It was reported that more than 70% of taxpayers placed heavy reliance on tax agents to handle their tax matters due to their inability to perform their duties themselves (Sakurai and Braithwaite, 2003; Marshall et. al., 1997). However, seeking assistance from tax agents denotes incurring extra compliance costs (Walpole, Evans, Ritchie and Tran-Nam, 1999; Sandford and Wallschutzky, 1994).

Although there is a small number of taxpayer might be willing to pay for the extra costs, majority of them reluctant to spend extra money as this will affect their financial standings. Empirically, studies by Hajah Mustafa (1997) and Loo and Juan (2005) found that more than 60% of employment income earners completed their own tax returns. This is certainly encouraging as the IRB emphasizes that under SAS, the Board will ensure that taxpayers are able to perform

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[399] To date, IRB has issued 42 Public Rulings in relation to individual tax matters including 19 for non-business individuals.

the responsibilities themselves with minimum help from tax agents[400] in order to avoid burdening them with extra costs. However, in order to accomplish this objective, imparting knowledge to taxpayers is an essential effort. The question of which aspects of tax knowledge are necessary and must be made familiar to each taxpayer has to be of concern.

Tax Knowledge Definitions and Measures

Tax knowledge has been studied by various researchers in relation to tax compliance with various focus and interests. However, it is noted that different researchers employed different definition and measurement of tax knowledge, thus leading to the inconsistent findings. This is evidenced by the claim made in Richardson and Sawyer (2001) and Devos (2005) as they concluded that the main reason for mixed findings and the failure of previous studies to demonstrate an obvious effect of tax knowledge on taxpayer compliance was due to the measurement used in the studies. For instance, Song and Yarbrough's (1978) measured tax knowledge in terms of the extent of taxpayer's knowledge about fiscal and tax matters. Similar definition has also been used in Groenland and Veldhoven (1983). Specifically, they defined tax knowledge as the degree of general fiscal knowledge and knowledge concerning realistic possibilities to commit fiscal frauds. This measurement consisted of a number of questions regarding the structure of income tax and value-added tax apart from the amount of tax payable and deduction possibilities.

A different definition is used in the study by Cullis and Lewis (1985) as tax knowledge is assessed based on knowledge regarding sources of government revenue, preferences whether to increase taxes in order to improve services and whether the increase in taxes should be based on income or expenditure. This measurement of tax knowledge was specified within the economics perspectives.

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[400] Annual Report 2001, Inland Revenue Board of Malaysia.

In the early 1990s, many researchers employ experimental method to examine the impact of tax knowledge. In this kind of study, tax knowledge is assessed based on the attendance to a formal tax class. For instance, White, Curatola and Samson (1990) and Christensen, Weihrich and Newman (1994) measured tax knowledge using attendance to the introductory federal income tax course for undergraduates in a few universities in the United States. In these studies, tax knowledge is referred to the knowledge of tax laws. It is measured by conducting pre-test and post-test to students attending introductory class in individual taxation.

Another study which also falls under this category is Eriksen and Fallan (1996). They used a questionnaire to measure tax knowledge of individuals before and after attending tax class. The questions were constructed based on two aspects i.e. deductible expenses and taxable income. Similarly, Hughes and Summers (2004) also followed the same method. Nevertheless, their tax knowledge measurement consists of 31 items which were divided into nine different groups according to Adam Smith's Canon of Taxation (1776). Subjects were asked to response to each statement on a one to five Likert scale where one indicates 'strongly agree', three indicates 'neutral' and five indicates 'strongly disagree'.

In Malaysia, the first attempt to measure tax knowledge is reported in Barjoyai (1992). There were two different sets of tax knowledge measured in the study i.e. perceived and actual knowledge in taxation. The first set measuring perceived knowledge used a series of perception questions about the necessary basic rules and regulations on taxation to calculate tax liability. The second set of measurement was a tax quiz to test taxpayer's actual understanding of rules and regulations on taxable receipt and allowable expenses. These two aspects tested in Barjoyai (1992) were similar to those tested in Eriksen and Fallan (1996) however the method of

testing is different. The former used quiz questions while the latter employed Likert-type perception statements.

Another study that examined tax knowledge of individual taxpayers in Malaysia was the study by Hajah Mustafa (1997). In his study taxpayer is considered to possess the necessary knowledge in taxation if he/she understands the tax laws and able to compute tax payable. However, one of the limitations acknowledged by the researcher was concerning the measurement of tax knowledge. It was noted that the knowledge variable was not operationalised to the fullest extent and it was not captured as a separate variable in the study. Rather, it was measured as part of the other variables under study such as perception towards tax fairness, tax administrative system and tax law complexity.

Apart from Hajah Mustafa (1997), there was another study on tax knowledge by Kasipillai (1997) which adapted a measurement introduced by Price (1992) to measure taxpayer understanding and knowledge in taxation. Price's measurement was designed to assess knowledge on basic tax responsibilities in filing and paying federal income taxes of taxpayers in Texas, United States. The measurement consisted of 20 test items with seven multiple-choice and 13 true and false questions. Kasipillai's (1997) measurement assessed the understanding and knowledge of Malaysian income tax laws focusing on taxable income, allowable deductions, tax rebates and tax administrative aspects. It contained 26 items of multiple-choice and true false questions.

Another study on tax knowledge in Malaysia was carried out by Palil (2005). He measured knowledge using 33 statements regarding general income tax administration, business income, employment income, dividend and interest income, personal relief and rebates. Respondents were asked to choose 'Yes' if the statement was correct and 'No' if it was incorrect or the respondents could choose 'Do not know' if they were uncertain of whether the statement is

correct or incorrect. Each correct response was given one mark and zero for incorrect or 'do not know' response. The maximum mark was 33 which represent the maximum total score for the test.

Adding to the list, there was a study by Loo and Juan (2005) which measured tax knowledge of salaried and non-business income earners in Malaysia. The measurement consisted of statements on relief, rebates, tax credits, type of assessment, chargeability of income and exemptions. The respondents were required to indicate 'Yes', 'No' or 'Not sure' towards the particular statements. The study also measured knowledge on tax liability computation, chargeable income remitted to Malaysia and correct year to charge bonus income using scenario questions. The respondents were required to indicate 'Yes', 'No' or 'Not sure' for the first two scenario while for the last one, they were asked to state the correct year to charge bonus income.

There were also studies in Malaysia which employed experimental method. Similar to some overseas studies such as White et al. (1990) and Christensen et al. (1994), a study by Kasipillai, Aripin and Amran (2003) also used attendance to undergraduate tax class as a measure of tax knowledge. The similar approach of assessing individual tax knowledge has also been used in Loo (2006), however instead of using students who attended tax classes, Loo (2006) chose two groups of undergraduate students that had not studied any subject related to income tax and delivered special two-hour lectures pertaining to individual income tax. One group was given a lesson on income tax for non-business income earner while the other was given lesson on income tax for business income earner. The subjects were asked to fill in the tax return form including computing tax liability based on a given case. Tax knowledge was measured based on the score calculated on the answers to the case.

So, it is obvious that not many literatures discussed on the issue of what tax knowledge for a layman should be constituted. These divergent of definitions among the researchers lead to the difficulty in comparing the findings and as such would develop a mixture of what is known (Churchill, 1979). Realizing this deficiency, it is viewed that in order to ensure successful implementation of SAS, there is a need to establish a generally accepted tax knowledge measure for individual taxpayers. The measurement should consist of the necessary aspects of knowledge in taxation for ordinary taxpayers to assess their own income. This measurement will benefit not only the researchers but also the policy makers. It could be used for the purpose of developing and structuring education programs and providing relevant services to various groups of taxpayers depending on their level of knowledge. Besides, it can be used by researchers in their studies which will reduce ambiguity in comparisons of the findings.

3.0   METHODOLOGY

Necessary Aspects of Tax Knowledge

Knowledge of an individual could be measured using true-false and multiple choice questions (Fowler, 1995).   Nevertheless, in order to construct the measurement, it is necessary to determine the content of the measurement (Churchill, 1979; Nunnally, 1978; Kwok and Sharp, 1998).   This study proposed individual tax knowledge be measured in terms of the declarative knowledge aspect (Robert and Ashton, 2003).   According to Adaptive Control of Thought-Rational (ACT-R) theory (Anderson, 1993), declarative knowledge is referred to knowledge that can be recalled consciously such as facts, instructions, examples and concepts.   This notion is taken as the basis to identify composition of tax knowledge.

Different sources of information and literatures related to declarative aspect of tax knowledge were sought to determine the necessary aspects and to define the tax knowledge construct for individual taxpayer in Malaysia.   As the result of the literature search, 24 items have been found as necessary aspects for individual taxpayer to perform the assessment tasks as required under SAS (as listed on Appendix A).   Next, expert opinions were sought to confirm that the above items are necessary aspects of individual tax knowledge and to establish face validity[401].   A mail survey was carried out for this purpose.   The respondents consisted of the tax agents registered with the IRB and IRB officer in-charge of education programmes at all IRB branches throughout the country.   The selection of tax agents was made randomly from the list provided on the IRB website.

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[401] According to Kwok and Sharp (1998), both content and face validity depend on subjective interpretations of the suitability of the items to the construct under study.   Content validity is established from the point of the researcher gathering knowledge from the literature while face validity from the expert grounded in practice.

However, before the questionnaires were mailed, a pilot test has been carried out by distributing the questionnaires to the academic staffs of Faculty of Accountancy, Universiti Utara Malaysia. This pilot test was carried out to assess the understandability and readability of the questionnaire besides assessing its reliability and validity criteria.

Reliability of an instrument refers to the extent to which a variable or a set of variables is consistent in what it is intended to measure (Hair, Black, Babin, Anderson and Tatham, 2006). There are several ways of assessing reliability of a scale. However, for the present study, reliability is assessed in terms of its internal consistency which refers to the degree of inter-correlation among items that measure the same concept (Hair et al., 2006). The internal consistency reliability of the scales is estimated by coefficient alpha or also known as Cronbach's alpha.

For the questionnaires distributed in the pilot study, the Cronbach's alpha value was 0.95 which indicated that there is a high level of consistency in the responses provided by respondents. According to the claimed made by Nunnaly (1978), the reliability coefficient of 0.70 and above is considered sufficient. Consequently, a factor analysis was utilized to check the validity of the scale. The analysis reveals that Bartlett test of sphericity was significant (Sig. = 0.000) and that the Kaiser-Meyer-Olkin measures of sampling adequacy was 0.76 indicated adequate measure of sampling as it was greater than 0.60 as suggested by Coakes and Steed (2001).

Eventually, 500 questionnaires were mailed with a postage-paid return envelope to randomly selected tax agents and the similar 34 questionnaires to IRB education officers at all branches throughout Malaysia. A covering letter with the University Utara Malaysia logo on the top of the page was also included at the front of every questionnaire explaining the purpose of the survey and the importance of the responses and guaranteed anonymity. The covering letter is also the

main chance of motivating the respondents to complete the questionnaire (De Vaus, 1993). The questionnaire was prepared in English and the translation in Bahasa Malaysia was also provided. Using a 5-point Likert scale, the respondents were asked to indicate how much they agree or disagree on each aspect that a non-business taxpayers must know in order to assess their own income. The scale ranged from 1 to 5 representing strongly disagree to strongly agree.

4.0   Findings

Of the total 534 mailed questionnaires, 43 were returned due to change of tax agents' addresses. One hundred and thirty-four questionnaires were received from respondents within two weeks of mailing period. A reminder card was sent to each respondent in the third week. Another seven questionnaires were received after the reminder providing a response rate of 29 percent. Two of the questionnaires were rejected due to two responses provided for one of the items listed, leaving a total of 139 usable responses.

Reliability and Validity Results

Consequently, the analysis of data was carried out on the usable questionnaires received. Similar to the analysis on pilot test data, the reliability of the measures was assessed using internal consistency indicated by a Cronbach's alpha value which is based on the average correlation of items within a test if the items are standardised (Coakes and Steed, 2001). This method is used as it is suitable in field studies because it requires only one administration of a single measuring instrument besides it is the most basic form of reliability estimation (Nunnally, 1978). The value of Cronbach's alpha for the items listed as necessary aspects of tax knowledge were 0.96. This value exceeds the Nunnally's (1978) guidelines which suggested that the minimum alpha value of 0.70 could be considered sufficient and consistent with the value obtained in the pilot test. The construct validity of the measures was later assessed using

factor analysis. The Bartlett's Test of Sphericity for the 24 items was significant (Sig. = 0.000) and measure of sampling adequacy with Kaiser-Meyer-Olkin (KMO) showed a value of 0.90 indicated that the appropriateness of the construct as "meritorious" (Hair *et al.*, 2006).

Descriptive Statistics

Table 1 below shows descriptive statistics for all 24 necessary aspects of tax knowledge. Mean for all items were positive with values above 3.00. Item with the highest standard deviation was 'the amount of relief' (1.52) while the lowest was 'types of assessment (i.e. joint or separate)' (1.01).

Table 1

Descriptive Statistics of Items (N= 139)

Item No.	Items	Mean	Standard Deviation	Minimum	Maximum
1	Tax return submission date	4.12	1.23	1	5
2	Due date to settle tax payment	3.91	1.33	1	5
3	Types of assessment (i.e. joint or separate)	4.22	1.01	1	5
4	Person chargeable to income tax	4.02	1.06	1	5
5	Types of income subjected to tax	4.07	1.08	1	5
6	Types of income exempted from tax	3.62	1.25	1	5
7	The amount of income exempted from tax	3.43	1.36	1	5
8	Meaning of income terms in taxation such as aggregate income, total income and chargeable income	3.51	1.25	1	5
9	The steps involve in computing tax payable	3.81	1.17	1	5
10	Assessment period for employment income	3.97	1.12	1	5
11	Types of employment income	3.93	1.06	1	5
12	Types and amount of allowable	3.31	1.35	1	5

donation and gifts

13	Types of relief	3.45	1.45	1	5
14	The amount of relief	3.29	1.52	1	5
15	Entitlement to relief	3.49	1.36	1	5
16	Types of individual tax rebates	3.39	1.34	1	5
17	The amount of tax rebates	3.33	1.33	1	5
18	Tax rates	3.21	1.45	1	5
19	Use of tax rate table	3.83	1.08	1	5
20	The length of period to keep proper record and documents	3.45	1.44	1	5
21	Types of record and document to keep	3.62	1.29	1	5
22	Relevant public rulings	3.18	1.36	1	5
23	Requirement to comply with the public rulings	3.17	1.42	1	5
24	Types of offences subjected to penalty	3.29	1.42	1	5

Factor Analysis

The next step was to run factor analysis on the item to identify the possible components for the 24 items in the measure. Table 2 presents the result of rotated component matrix in factor analysis. Similar to Md Idris and Ayob (2001), this study chose Principle Component Analysis (PCA) followed by a varimax rotation of all the items in the measures as it is an effective and widely accepted as a mean of exploring the interdependence among variables. As a result, four components that have Eigenvalue of 1 or more were attained. Each component that had an Eigenvalue of 1 or more is considered as significant (Hair et al., 2006) with component 1 has the highest Eigenvalue i.e. 13.15. The percentage of the total variance from these four components is 74% which is considered as satisfactory with the highest percentage of total variance also comes from component 1 which accounts for 54.81%. The guidelines provided in Hair et al. (2006) were applied for choosing the items for a component. Given the number of sample in the study, the guidelines suggested that the items in each component with rotated factor loadings of 0.45 or higher were considered as significant. Since each item have rotated factor loadings which fell under the specified category, all items were accepted and grouped under four components as shown in Table 2.

Table 2

Rotated Component Matrix[a] for Necessary Aspects of Tax Knowledge (N=139)

Items	Item No.	Components			
		1	2	3	4
Deductions & Tax Liability Computation (10 items)					
The amount of relief	14	.877			
Types of relief	13	.855			
Entitlement to relief	15	.819			
Types of individual tax rebates	16	.785			
Types and amount of donations and gifts	12	.782			
The amount of tax rebates	17	.778			
Tax rates	18	.724			
The amount of income exempted from tax	7	.695			
Types of income exempted from tax	6	.589			
Use of tax rate table	19	.535			
Income Assessment Principles (7 items)					
Assessment period for employment income	10		.854		
Types of assessment (i.e. joint or separate)	3		.810		
Types of employment income	11		.722		
Meaning of income terms in taxation such as					

aggregate income, total income and chargeable income	8	.690	
Person chargeable to income tax	4	.522	
The steps involve in computing tax payable	9	.502	
Types of income subjected to tax	5	.491	
Rulings, Record Keeping & Offences (5 items)			
Public rulings	22	.827	
Requirement to comply with the public rulings	23	.801	
Types of record and document to keep	21	.663	
The length of period to keep proper record and document	20	.606	
Types of offenses subjected to penalty	24	.600	
Due Dates (2 items)			
Tax return submission date	1		.780
Due date to settle tax payment	2		.755

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.
Eigenvalue of the components = 1 or more.

These four components represent the dimensions of tax knowledge required by non-business taxpayers in order to assess their income as required under SAS. By looking at the likely similar characteristics of the items under each dimension, the dimensions were named as deductions & tax liability computations, income assessment principles, rulings, record keeping & offences and due dates respectively. Deductions & Tax Liability Computation dimension has 10 items with the rotated factor loadings range from 0.53 to 0.88. Income Assessment Principles dimension (7 items) has rotated factor loadings that range from 0.49 to 0.85 while Rulings, Record Keeping & Offences (5 items) has rotated factor loadings from 0.60 to 0.82. The fourth dimension i.e. Due Dates (2 items) have rotated factor loadings of 0.75 to 0.78.

Further, the construct reliability of each dimension was assessed. However, before assessing the internal consistency of the measures, an item inter-correlation matrix was constructed to examine the extent to which some common trait was present in the items. If there is low inter-item correlations the associated items are likely to have been inappropriately selected (Nunnally, 1978 and Churchill, 1979). In this regards, Flynn, Schroeder and Sakakibara (1994) suggested that items having relatively low correlation i.e. ≤ 0.30 with other items have to be dropped from the measure. All inter-item correlations for each dimension of tax knowledge were above 0.40. The analysis also reveals that a considerable number of correlations exceed 0.30 which showed that the items were suitable for the instruments (Coakes and Steed, 2001).

Next, an internal consistency was assessed separately for each dimension of tax knowledge. The Cronbach's alpha values of the four dimensions were 0.95 (deductions & tax liability computations), 0.89 (income assessment principles), 0.92 (rulings, record keeping & offences) and 0.86 (due dates). The alpha value for each dimension shows that the reliability was adequate. Ang (2000) suggested that measures with high alpha value i.e. at least 0.80 and consistent item inter-correlations could be accepted without any modification. As the alpha

value for each dimension in tax knowledge measure is above 0.80 and the inter-correlations between items in the dimensions were consistent and above 0.40, the measure of tax knowledge was acceptable.

5.0   Discussions

The objective of this study is achieved as the results from factor analysis showed that there are four dimensions in individual tax knowledge. They are named as deductions & tax liability computation, income assessment principles, rulings, record keeping & offences and due dates. The names were allocated by observing the similar characteristics of items grouped in each respective dimension. The items in the dimensions represent the necessary knowledge that must be possessed by all taxpayers if they were to assess and calculate their own tax liability. Taxpayers must understand not only on the technical calculation aspect but also the basic concepts such as types of income subjected to tax, whether to assess income separately or joint with their spouse's income and the whole process of assessing income which involve various terms and concepts. In addition, taxpayers also need to be aware of tax laws and rulings that they must adhere to besides keeping sufficient documents and records as proofs of claims and deductions. It is also beneficial if taxpayers understand the different types of offences that they might be trapped into and the penalties that awaiting them.

The results also indicate that knowledge of taxation is multi-dimensional and it is complex in nature. However, by determining dimensions of tax knowledge may lead to a more practical and specific definition of the concept itself. Prior studies had not address this issue leaving the researchers to employ own definitions and use different measures of tax knowledge which eventually lead to inconsistent and incomparable findings (Devos, 2005; Richardson and Sawyer, 2001).

Contrary to the old assessment system, SAS assumes taxpayers to have sufficient knowledge to assess own income and compute correct tax liability. Since the beginning of SAS implementation, taxpayers were not given any option. Regardless of the level of their knowledge, they have to furnish correct tax returns and pay the correct amount of tax. Under such assessment system, it is necessary to educate taxpayers and ensure that they possess necessary knowledge to perform their duties. The results in this study demonstrate the necessary knowledge that must be possessed by all taxpayers. Indeed, it is believed that a general and well accepted measure of tax knowledge could be developed and used by tax authority in order to evaluate the level of tax knowledge among taxpayers. This could be done based on the dimensions of tax knowledge identified in this study.

6.0   Recommendation and Conclusion

Taxpayers' responsibilities have been drastically expanded with the introduction of SAS. For an ordinary taxpayer who has not received formal tax education, the new task will more or less places burden and requires time and efforts to ensure that it is well performed (Saad et al., 2003). In fact, taxation is complex and with the rapid change in tax provisions, it is not possible for taxpayers to comprehend fully all tax laws and regulations governing their tax matters. Hence, due to lack of knowledge in taxation, taxpayers may be exposing themselves to tax risk. This is because under SAS, tax authority will carry out tax audit to determine whether taxpayers had complied with the tax laws and regulations. Thus, any violate from the laws and regulations are regarded as non-compliance and will be penalised.

Even though tax knowledge is complex and become obsolete easily due to changes in tax provisions, nevertheless, it can be divided into less complex elements as reflected by the results in this study. Each aspect in the dimensions will form as the basic knowledge that must be made known and understood by all taxpayers. Later, any changes can be easily updated form time to time. This basic knowledge is also the basis for planning own tax matters i.e. legal ways

to minimise tax liability. Thus, this study may provide useful insight to policy makers or tax authorities. It has shown the basic knowledge in taxation that should be imparted to all taxpayers. In addition, taxpayers must be made aware that learning taxation is a continuous process because it needs to be updated regularly. Thus, better strategies have to be designed and implemented to inculcate tax knowledge based on the dimensions identified.

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Appendix A

NECESSARY ASPECTS OF TAX KNOWLEDGE

- Tax return submission date.
- Due date to settle tax payment.
- Types of assessment (i.e. joint or separate).
- Person chargeable to income tax.
- Types of income subjected to tax.
- Types of income exempted from tax.
- The amount of income exempted from tax.
- Meaning of income terms in taxation such as aggregate income, total income and chargeable income.
- The steps involve in computing tax payable.
- Assessment period for employment income.
- Types of employment income.
- Types and amount of allowable donation and gifts.
- Types of relief.
- The amount of relief.
- Entitlement to relief.
- Types of individual tax rebates.
- The amount of tax rebates.
- Tax rates.
- Use of tax rate table.
- The length of period to keep proper record and document.

- Types of record and document to keep.
- Relevant public rulings.
- Requirement to comply with the public rulings.
- Types of offences subjected to penalty.

USING MATHEMATICS TO TEACH ACCOUNTING PRINCIPLES

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ABSTRACT: As widely acknowledged, Luca Pacioli discussed accounting in his mathematics book *Summa de Arithmetica, Geometria, Proportioni et Proportionalita*. Using the perspective of mathematics, this paper shows that the majority of available accounting principles literature employs accounting equations positioning the elements of both assets and expenses in opposite accounting equations, rather than placing the two elements in the same side of the accounting equation. More than just offering consistent rationality, the use of mathematics rationality will make it much simpler to explain why the elements of assets and expenses should receive the same treatment in relation to debits and credits. Furthermore, this paper shows that the rules of debits and credits are entirely based on mathematical logics. Finally, this paper proposes the need for learning accounting from the perspective of mathematics, in addition to those of GAAP and engineering skills.

Keywords: Accounting education methods; definition of equity; expanded accounting equations; mathematics rationality; rules of debits and credits; mathematics-oriented study of accounting principles

INTRODUCTION

A large number of accounting software generate information which is reliable and relevant, comply with generally accepted accounting principles (GAAP), and fulfill the various needs for corporate financial information. The development of the accounting software must have involved many professionals other than accountants, including programmers who are used to mathematical thinking. These programmers are able to understand the workings of accounting even without having to study it in detail. Accordingly, there must be some methods which can be employed to teach accounting principles at college level to supplement the current teaching because the latter has been questioned in terms of its effectiveness due to some inappropriateness in the methods of learning accounting principles. This paper employs the perspective of mathematics in solving crucial issues which typically come to the surface in class discussions about accounting principles.

Discussions about accounting principles teaching methods are always appealing. The traditional teaching of accounting has been criticized in many countries (Duff and McKinstry 2007) because they are considered either too narrow procedural (Patten & Williams 1990; Nelson 1995) or unable to catch up with current development in business to the extent that students can hardly receive any perfect picture of the real business world (Adler 1999).

A number of experts have questioned the importance of teaching of debits and credits in classes of accounting principles because it is considered too mechanical, unintuitive, and forcing the student to rely on memory only (Ingram 1998), and susceptible of providing an incorrect picture about accounting to students who do not major in accounting (Pincus 1997; Diller-Hass 2004). Furthermore, the double-entry system in accounting has experienced a significant decrease in relevance with the advent of software which is capable of providing a variety of information without having to set up general ledgers (Elam 1995 in Pincus 1997). On the other hand, a number of other experts have tried to maintain the teaching of debits and credits in accounting principles because debits and credits are believed to be "part of the vocabulary in our language" (Wallace 1997, 230), and because debits and credits are an indispensable part in the learning process of accounting (Vangermeersch 1997).

A great number of experts have been discussing the need of changes in the teaching methods of accounting (Rankin et al. 2003; Hartnett et al. 2004). Albrecht and Sack (2000) stated that the study of accounting needs to be modified to catch up with changes in technology

and globalization. Saudagaran (1996) and Springer and Borthick (2004) noted that the traditional curriculum of accounting, which emphasizes memorizing skills, may actually hinder the student's effort to develop the requisite competencies in accounting, such as critical thinking. The AECC has suggested the needs for restructuring accounting principles through learning by using a user model instead of a preparer model (in Lee and Bisman 2006). The user model was perceived to be able to provide the student with a better understanding of the concept of accounting (Baldwin and Ingram 1991; Bernardi and Bean 1999). Other researchers suggested the use of information technology to improve the effectiveness of accounting study (Elliot, 1992; Pincus 1997; Mohamed and Lashine 2003; David et al. 2003; Goldwater and Fogarty 2007).

Even though the business has experienced dynamic changes, the study of accounting remains essentially the same (Albrecht and Sack 2000; Sangster, et al. 2007), passive (Bonner 1999; Boyce et al. 2001), procedural (Dempsey and Stegmann 2001), inadequate in equipping the student with the necessary competencies (Mohamed and Lashine 2003), and relying merely on a one-way direction of knowledge distribution (Williams 1993; Saunders and Christopher, 2003). This traditional learning of accounting makes accounting books look similar to one another (Sullivan and Benke 1997) which in turn make accounting less than appealing to the student. For the next ten years there will be a shortage of faculty members with Ph.D's (AACSB 2003). The shortage of American lecturers and doctorate students in accounting "already exists and may grow" (Plumlee et al. 2006, 113). Fogarty and Markarian (2007) indicate that there has been a decrease in the number of accounting lecturers – one that may escalate to a serious problem of sustainability for the discipline of accounting. Furthermore, there is an increasing number of students who decide to major in accounting after enrolling in a university (Nelson et al. 2008).

The Teaching and Curriculum Section of the American Accounting Association states that research into the history of accounting may provide a precious lesson to comprehend the discipline of accounting (in Sangster et al. 2007). In line with this idea, this paper employs the perspective of mathematics to discuss important topics in accounting principles. As widely acknowledged, Luca Pacioli is a university professor of mathematics who discusses accounting in his book *Summa de Arithmetica, Geometria, Proportioni et Proportionalita* (Sangster et al. 2007). Using the perspective of mathematics, this paper presents solutions which would make the goal of learning accounting attainable, that is, by introducing the student to the fact that accounting is in reality a much appealing knowledge that would encourage the student to try to find out more about it.

Actually, the mathematical perspective has been employed in a number of accounting books, but it is seldom mentioned explicitly, and sometimes it is used inconsistently. On the basis of some observations on the majority of literature on accounting principles, the present paper concludes that only a few books state with enough emphasis that accounting is one of the sciences that based on mathematics. This paper also concludes that the majority of available literature employs accounting equations positioning the elements of both assets and expenses in opposite accounting equations, rather than placing the two elements in the same side of the accounting equation, even though both equations are mathematically correct. Furthermore, this paper shows that the rules of debits and credits are entirely based on mathematical logics. Finally, this paper discusses the need for learning accounting from the perspective of mathematics, in addition to those of GAAP and engineering skills.

THE DEFINITION OF EQUITY

Accounting is based on the basic equation that assets equal to liabilities plus equity. Equity is a residual interest, namely the arithmetic difference between assets and liabilities (Alfredson et al. 2007). This definition of equity is intended to maintain a balance between the left side and the right side of the accounting equation. However, most books of accounting principles simplify the definition of equity as "owner's equity," which reflects the owner's claim

over the firm. The use of the term "owner's equity" narrows the real meaning of equity. In general, primarily at the formation of a firm, the element of equity is likely to be the owner's investment. Under certain circumstances, however, equity may come from grants, donations, or aids from the government or other outside parties which may not be categorized as owners. In other words, the use of the term "owner's equity" is very likely to raise a dilemma: that the balance in the accounting equation cannot always be attained due to the reception of grants, donations, or government aids which do not meet the criteria either liabilities or owner's equity. Of course accounting teachers have their own ready answers to this dilemma, but should they give any advanced answers to simple questions posed by accounting novices?

A number of textbooks provide an additional description of owner's equity as a residual value so that assets always equal the total amount of liabilities and owner's equity (Horngren et al. 2002; Williams et al. 2005; Anthony et al. 2007; Weygandt et al. 2008). FASB and IASB define equity or net assets as "the residual interest in the assets of an entity that remains after deducting all its liabilities" (FASB 1985, par. 49; IASB Technical Summary 2008). Thus, both standards emphasize that equity is merely a mathematical rule intended to maintain a balance in the accounting equation. Therefore, it is appropriate to use the terms equity, net assets, or residual interest of assets in the study of accounting principles, instead of the term "owner's equity" commonly used in accounting principles textbooks.

THE RATIONALITY OF ACCOUNTING EQUATIONS

Assets are resources under the firm's control, whose funds come from liabilities and equity (sources of funds). Accounting conveys the elements of revenues, expenses, and dividends in the accounting equation (called expanded accounting equation) because the firm conducts business and distributes dividends. The three elements are part of equity; revenues increase equity, while expenses and dividends decrease equity. That is the rationality of the accounting equation employed in most accounting textbooks. The rationality is primarily based on the balance-sheet approach so that other accounting variables (including revenues and expenses) are "considered secondary and derivative" (Dichev 2008, 454). The emphasis on the balance-sheet approach is "unclear" (Dichev 2008) and "requires revaluations that often are not trustworthy" (AAA's Financial Accounting Standards Committee 2007).

The basic accounting equation can be expressed as equation 1 (see Figure 1), and the expanded accounting equation can be expressed as equation 2 (see Figure 2).

Insert Figure 1 and Figure 2 here

Many textbooks employ the basic accounting equation (equation 1) to analyze transactions which result in changes in the element of revenues, expenses and dividends (Ainsworth et al. 2000; King et al. 2001; Porter and Norton 2001; Warren et al. 2002; Libby et al. 2004; Williams et al. 2005; Anthony et al. 2007). Several of these textbooks write down the expanded accounting equation (equation 2) in their books (Horngren et al. 2002; Weygandt et al. 2008).

Is there any rationality inappropriateness in the existing textbooks in their explanations of the accounting equation? Although the expanded accounting equation (equation 2) is mathematically correct, the rationality which applies to equation 1 is applied in an inconsistent manner to equation 2 because the elements of expenses and dividends are not sources of funds. In other words, the rationality employed to explain basic accounting equation is different from that employed to explain expanded accounting equation. Learning which employs different rationalities to explain two things which in essence are closely related is liable to confuse students.

Ingram (1998) employs equation 3 (see Figure 3) to simplify the understanding of the logics of debits and credits. However, it is hard to find textbooks which express accounting equation as expressed in equation 3 although mathematically equation 2 and equation 3 are both correct. Therefore, it is interesting to find the rationality of the accounting equation expressed in equation 3 because mathematically it is more proper to place elements with the same signs (positive or negative) on the same side. For the sake of simplicity, this paper calls the rationality of equation 3 as mathematical rationality, while this paper calls the rationality of equation 2 as conventional rationality.

Insert Figure 3 here

Subramanyam and Wild (2009) and Anthony et al. (2007) state that the basic accounting equation can be perceived as sources and uses of fund. Therefore, by using the mathematical rationality, the left side of equation 3 reflects the uses of fund, while the right side reflects the sources of fund. The company uses the funds to acquire assets, pay expenses and/or distribute dividends with funds taken from the sources of liabilities, equity, and/or revenues. This mathematical rationality can consistently explain both the basic accounting equation (equation 1) and the expanded accounting equation (equation 3).

Vangermeersch (1997) noted that revenues and expenses are separate elements, and not subdivisions of equity. Therefore, the placement of revenues, expenses, and dividends on the same side (equation 2) is a compulsion that runs the risk of confusing the student. Besides raising the problem of inconsistency in the rationality of accounting equation, two additional reasons make the use of equation 2 unacceptable. First, by definition equity is limited to a residual interest or net assets to the effect that there is no appropriate justification for an explanation as to why the element of revenues, expenses, and dividends should belong to equity. Secondly, the attachment of one element to the other may result in their being less than optimal. Analogizing the approaches of data management in the computer system, the database approach provides information which is more up-to-date, standardized, and easier to access than the application-oriented approach because the database approach separate data from their application software (Romney and Steinhart 2009).

More than just offering consistent rationality, the use of equation 3 will make it much simpler to explain why the elements of assets and expenses should receive the same treatment in relation to debits and credits even though by definition assets and expenses markedly differ from one another; assets represent sources which provide future benefit, while expenses represent a sacrifice of assets (FASB 1985). Moreover, the use of equation 1 or 2 forces the student to think twice when identifying changes in the accounts due to expense transactions and dividend transactions; the recognition of expenses (dividends) make expense (dividend) accounts increase, but must be recorded as a decrease because expenses (dividends) decrease equity. This is an unnecessary step and is liable to raise confusion to the student especially when he or she should identify accounts which must be debited or credited). Unlike equation 1 or 2, the use of equation 3 dispenses with this unnecessary step and minimizes confusion in the student's mind when identifying debit or credit accounts.

THE RULES OF DEBITS AND CREDITS

The rules of debits and credits have been much debated by experts. In their consideration, the mechanism of debits and credits does not make sense ("debits and credits are nothing more than pluses and minuses", Ingram 1998, 411), demands the student simply to memorize (Pincus 1997), is too narrowly procedural (Patten and Williams 1990; Nelson 1995),

and is liable to convey a mistaken picture about accounting to the student (Pincus 1997; Diller-Haas 2004). As far as we know, all accounting textbooks discuss these rules of debits and credits. A number of textbooks state that the rules of debits and credits are arbitrary (Anthony et al. 2007), a rule of thumb (Williams et al. 2007), or customs "like the custom of driving on the right-hand side…" (Weygant et al. 2008, 49). Other textbooks briefly describe these rules by providing mathematical illustrations expected to facilitate the student's understanding (Ainsworth et al. 2000). Nevertheless, the description ends up with an appeal that the student simply memorizes the rules (Walther 2009).

From the mathematical perspective, this debit and credit mechanism actually has an argument which is very clear and easily understandable to the student. In essence, this debit and credit mechanism represents a consequence of the accounting equation whose recording is reflected in the double-entry system.

Why should the asset accounts be debited when they increase and credited when they decrease? We can get an answer to that question by taking a close look at the following figures and its two illustrative cases.

Insert Figure 4 here

Figure 4 indicates the position of each element in the accounting equation: assets, expenses, and dividends on the left (debit) side of the equation, while liabilities, equity, and revenues on the right (credit) side.

Insert Figure 5 here

Case A (see Figure 5): Suppose Company A purchases supplies on account. This transaction engenders changes in the Supplies account and the Account payable account; both accounts increase. The Supplies account is recorded on the debit side, while the Account payable account is recorded on the credit side. This is in line with the position of each account in the accounting equation.

Insert Figure 6 here

Case B (see Figure 6): Suppose Company A purchases supplies in cash. This transaction engenders changes in the Supplies account and the Cash account; the Supplies account increases, while the Cash account decreases. In this case, both accounts are assets. To maintain internal consistency mathematically, the Supplies account must be debited because the supplies account is an element of assets; assets have positive values, and are on the left (debit) side of the accounting equation. Next, following mathematical rules, the Cash account must be credited because of a decrease in cash as a result of the transaction.

Insert Figure 7 here
Case C (see Figure 7): Suppose Company A converts its notes payable into bonds. This transaction engenders changes in the Notes payable account and the Bonds payable account; the Bonds payable account increases, while the Notes payable account decreases. In this case, both accounts are liabilities. To maintain internal consistency mathematically, the Bonds payable

The worksheet is viewed as the "connector" between accounting topics that are taught early in the semester and accounting topics taught later in the semester. As the connector, the worksheet helps develop the process of compiling financial statements, which constitutes one of the most important topics in accounting.

The treatment of net income (or loss) in the worksheet reflects inconsistency in the application of mathematics. When the firm earns profits (net income), the amount of net income is recorded on the debit side of the Net Income column and on the credit side of the Balance Sheet column. This practice violates the mathematical rule which requires that the amount of any item should be recorded on the same side, be it debit or credit. Students who use mathematics to understand accounting may find it difficult to accept this inconsistency.

THE DEPRECIATION OF FIXED ASSETS

Depreciation is another important topic in accounting principles. There are some approaches that can be used in measuring the amount of depreciation expense per period. The use of these approaches can yield different amounts of depreciation expense.

The existence of a variety of methods for the measurement of depreciation expense indicates the flexibility that is inherent in accounting. This flexibility is made possible because accounting is affected by various considerations, such as economic considerations, legal considerations, and so on. The existence of a variety of depreciation methods reflects the accommodation of mathematical applications in accounting.

The following is a brief description of the common methods used in the measurement of depreciation expense. The methods are: the straight-line method, the units-of-production method, and the double-declining balance method.

The straight-line method allocates the cost of an asset on the basis of the passage of time. The amount of depreciation expense per period is constant. The formula for the straight-line method is as follows:

The units-of-production method allocates the cost of an asset on the basis of the productivity of the asset. The amount of depreciation expense per period varies in accordance with the productivity of the asset.

One way among many that can be employed to dispense with this inconsistency is the use of a 12-column worksheet, consisting of a 10-column worksheet plus 2 columns for closing entries. In addition to its usefulness to dispense with the inconsistency of the 10-column worksheet, the 12-column worksheet is also useful for the study of accounting. Firstly, the provision of the 2 columns for the closing entries indicates that closing entries are among the important activities in accounting (without which the balance of nominal accounts would be carried to the next period). Secondly, the 12-column worksheet engenders the Income Summary account, which comes out due to the existence of the closing entries. This Income Summary account is important to show the firm's profit or loss. Thirdly, the 12-column worksheet conveys the up-to-date balance of the retained earnings account so that the Balance sheet column in the worksheet helps a lot in compiling the financial statements (see Table 2).

Insert Table 2 here

MATHEMATICS-ORIENTED STUDY OF ACCOUNTING PRINCIPLES

There are still many important topics about the accounting principles that can be explained mathematically. Our experience indicates that when told that the primary working of accounting is based on mathematics, the student can understand accounting topics more easily, including adjusting entries –whose debits and credits have often become an object of complaint on the part of the students (Pincus 1997) – and the crucial problem of closing entries.

Accounting is a tool to attain a particular aim (Ingram 1998). In other words, accounting should be treated like technology. As a technology, accounting can be made analogous to aircrafts, computers, or any other technological products. Those technologies are developed systematically, logically, and on the basis of sciences whose validity has been so well established that they are capable of growing even further and giving a vast contribution to the humankind.

We argue that the development of accounting is affected by three interrelated pillars:

a. Mathematics; this pillar should be firmly founded upon which accounting may grow.

b. Generally accepted accounting principles (GAAP); this pillar serves to ensure that the

   development of accounting could be well understood and accepted by the users.

c. Engineering skills; this pillar provides a space for the user for developing the kind of

   accounting that is most suitable to his wants and needs.

The development of accounting should be done through the development of the three pillars mentioned above.

The tremendous growth of the business world has likewise increased the complexities of accounting and financial reporting. Up to now the development of accounting (GAAP) regulations has been intensively done with the hope that such a development may provide the necessary solutions to existing problems. Nevertheless, "we cannot expect regulation to completely protect investors" (Scott 2009, 15). Therefore, it is expected that a development that gives preeminence to the mathematical pillar would enable accounting to give a significant contribution to mankind.

The addition of the revenues and expenses elements would make accounting study dynamic (Vangermeersch 1997). By using the mathematical perspective, it is expected that accounting study would be more dynamic and capable of inviting the student to develop

accounting knowledge, rather than to be content with understanding accounting simply as a rule of play established by the business game. The use of the mathematical perspective can also be an initial step toward the development of new models of determining monetary values in financial statements, which up to now have been considered within the competence of other fields.

CONCLUSION

Historically, accounting was based on mathematical knowledge as codified in Luca Pacioli's book of mathematics. Using the mathematical perspective, the present paper reviews several basic issues in textbooks of accounting principles commonly employed so far, and presents a rationality based on clear arguments over the rules of debits and credits. By designing a mathematics-oriented learning, it is expected that the study of accounting principles would be dynamic and capable of developing the capacities for inquiry, abstract logical thinking, and critical analysis (AECC 1990).

The development of the mathematical pillar in accounting would enable it to develop faster rather than remaining just a tool to provide information as it essentially is right now. As a result, the way is open wide for the addition of the elements of accounting equations as well as new accounting topics developed mathematically.

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Figure 1: Basic Accounting Equation

Assets = Liabilities + Equity ....equation 1

Figure 2: Expanded Accounting Equation – Convensional Rasionality

Assets = Liabilities + Equity + Revenues – Expesenses – Dividends ....equation 2

Figure 3: Expanded Accounting Equation – Mathematic Rasionality

Assets + Expenses + Dividends = Liabilities + Equity + Revenues ....equation 3

Figure 4: Position of Each Elements of Expanded Accounting Equation

(Dr)	ASSETS + EXPENSES + DIVIDENDS	=	LIABILITIES + EQUITY + REVENUES	(Cr)
	ASSETS (+)		LIABILITIES (+)	
	EXPENSES (+)		EQUITY (+)	
	DIVIDENDS (+)		REVENUES (+)	

Figure 5: Analysis of Transaction of Purchasing Supplies on Account

(Dr)	ASSETS + EXPENSES + DIVIDENDS	=	LIABILITIES + EQUITY + REVENUES	(Cr)
	Supplies (+) (Increasing, debited)		Account payable (+) (Increasing, credited)	

Figure 6: Analysis of Transaction of Purchasing Supplies in Cash

(Dr)	ASSETS + EXPENSES + DIVIDENDS	=	LIABILITIES + EQUITY + REVENUES	(Cr)

(Dr)   Supplies   (Cr)

Increasing, debited

(Dr)   Cash   (Cr)

Decreasing, credited

Figure 7: Analysis of Transaction of Debt Conversion

(Dr)	ASSETS + EXPENSES + DIVIDENDS	=	LIABILITIES + EQUITY + REVENUES	(Cr)

(Dr)   Bonds Payable   (Cr)

Increasing, credited

(Dr)   Notes Payable   (Cr)

Decreasing, credited

Table 1: The 10-Column Worksheet

ACCOUNTS	ADJUSTED TRIAL-BALANCE		NET INCOME		BALANCE SHEET	
	Debits	Credits	Debits	Credits	Debits	Credits
Assets	$200,000.00				$200,000.00	
Liabilities		$80,000.00				$80,000.00
Capital stock		$100,000.00				$100,000.00
Dividend	$7,000,00				$7,000.00	
Retained earnings		$15,000.00				$15,000.00
Revenues		$50,000.00		$50,000.00		
Expenses	$38,000.00		$38,000.00			
Net Income*			$12,000.00			$12,000.00
Total	$245,000.00	$245,000.00	$50,000.00	$50,000.00	$207,000.00	$207,000.00

*Net income is not an account.

Table 2: The 12-ColumnWorksheet (Including Closing entries)

ACCOUNTS	ADJUSTED TRIAL-BALANCE		NET INCOME		CLOSING ENTRIES		BALANCE SHEET	
	Debits	Credits	Debits	Credits	Debits	Credits	Debits	Credits
Assets	$200,000.00						$200,000.00	
Liabilities		$80,000.00						$80,000.00
Capital stock		$100,000.00						$100,000.00
Dividend	$7,000,00					d)$7,000.00		
Retained earnings		$15,000.00			d)$7,000.00	c)$12,000.00		$20,000**
Revenues		$50,000.00		$50,000.00	a) $50,000.00			
Expenses	$38,000.00		$38,000.00			b)$38,000.00		
Net Income*			$12,000.00					
Income summary***					b)$38,000.00 c)$12,000.00	a)$50,000.00		
Total	$245,000.00	$245,000.00	$50,000.00	$50,000.00			$200,000.00	$200,000.00

*Net income is not an account

**Ending balance of retained earnings is $20,000.00 (beginning balance of retained earnings + Net income – Dividends). The beginning balance of retained earnings is $15,000.00 as shown in the adjusted trial-balance column.

***Income summary is an important clearing account used to show the number of profit or loss.

FAMILY SUCCESSION AND PERFORMANCE AMONG MALAYSIAN COMPANIES

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ABSTRACT

Family succession is one of the prevalent topics discussed in family management. However, there is lack of research on the issue of succession in Malaysia despite the fact that about 70% of listed companies in Malaysia are owned by family related business. Thus, this study aims to examine the relationship between family succession attributes and firm performance. This study adopted balanced panel data analysis for 975 companies listed on Bursa Malaysia for the year 2003 to 2007. The findings indicate that some of the family succession attributes do influence firm performance. Family ownership was found to be positively related with firm performance. Families are motivated to work efficiently when more shares were in their hands. Furthermore, the results reveal that successors-managed firms have better firm performance than founder-managed firms. The findings provide evidenced that Malaysian family firms do plan for their successions. More importantly, it opens up the possibilities for further study of family succession, both in Malaysia and on global basis.

1.0 INTRODUCTION

One of the most prevalent topics in the family business management literature is succession planning (Chua, Chrisman & Sharma, 2003). Succession planning should be initiated at a very early in the offspring's life (Davis, 1968; Stavrou, 1999). A proper succession process affords family firms the opportunity to select effective leaders who are capable of rejuvenating their firms (Ward, 1987). But it is a difficult tasks to accomplish. Usually, founders either fail or refuse to plan for the succession of the family business (Danco, 1982; Ward, 1987). It is also difficult to find a competent family member who is willing to take over the control of the family firm, or the offspring of family managers may be reluctant to join the firm (Blotnick, 1984).

Other reasons that contribute to failure in succession are that founder's reluctance to plan for succession, founder's strong sense of attachment to the firm (Kets de Vries, 1993), fear of retirement and death, lack of other interests by the offspring (Levinson, 1971; Stavrou, 1999), offspring life stage (Ward, 1987), gender and birth order (Goldberg & Wooldridge, 1993), the offspring competency, involvement in the family firm (Davis, 1968) and personality traits (Goldberg & Wooldridge, 1993).

Moreover weaning children to take over the wheel of a firm has become a lot more challenging. There will be a tough challenge for family firms seeking to pass the torch to their children in the future (Gabriel, 2007). For instance, the Khind Holdings Bhd Group Chief Executive Officer (CEO) Cheng Ping Keat, who is the son of the company founder, also

admitted that keeping a family business alive is the toughest management job on earth (Damodaran, 2006).

There is a Chinese saying that claimed "wealth does not endure three generations". Whether the statement is a coincidence or not, many Asian family firms tend to suffer from this phenomena (Ngui, 2002). Wong (1985) argued that a Chinese family firm could seldom last longer than three generations because of the offspring would take their propensity for granted and lack of motivation to sustain the firm. For examples, Tan Chong Motor Holdings Bhd and the Hong Leong Group were firms that faced this kind of conflicts in their second generations. In Tan Chong case, the two Tan brothers (Tan Sri Tan Yuet Foh and Datuk Tan Kim Hor) have established the Tan Chong Bhd in 1958. Later the conflicts started when Datuk Tan Heng Chew, the eldest son of Yuet Foh, openly clashed with his uncle and cousins in a legal tussle in the Malaysian courts. As a result, family wealth had been divided. Tan Heng Chew was awarded 16.7% stake in Tan Chong Consolidated Sdn Bhd (TCCS), the private holding company for Tan Chong Motor Holdings Bhd. His uncle and family patriarch Datuk Tan Kim Hor was given a smaller 10.29% stake. However, Heng Chew's brothers, cousins and mothers were also shareholders of TCCS. Heng Chew was also the chairman of two listed firms within the group: APM Automotive Holdings Bhd and Warisan TC Holdings Bhd. The court judgement strengthen Heng Chew's position at the expense of the other family member (Datuk Tan Kim Hor).

Many of the third-generation in the West has also evolved into managerial corporations. But among Asian families, total professional management in a family company is rare. Nevertheless, the move towards hiring professionals into the family firms is gaining popularity. Therefore, Malaysian family firms have started considering bringing professionals in managing the family firms. For example, Lee Kong Chian, who founded Lee Rubber-OCBC Bank Holdings Ltd, was one of the first family patriarchs to incorporate professional managers in their family firm. That was way back in the 1940s and 1950s. Today, a largely professional team runs the OCBC Bank with little influence by the Lee family, although family members still sit on the board. Another case is that of Public Bank Bhd which is controlled by Tan Sri Teh Hong Piow. The bank is now professionally managed by Teh and his team of managers. Although Public Bank is seen as Teh's creation, but none of his children hold significant positions within the group. Thus, based on the above discussion, are Malaysian family companies ready for succession planning? Does family succession affect the firm performance?

Thus, the issue of family succession has motivated the researchers to carry out this study. In Malaysia, a study by Shamsir Jasani Grant Thornton (2002) has briefly

discussed on succession planning. However, the study only provides a brief review on the current practice of family succession descriptively without analyzing the impact of the succession planning and other important business issue such as business financial performance. Hence, this factor has enthusiastically motivates the researchers to carry out this study.

The objective of this study is to examine the family succession attributes with firm performance for family firms. This study aims to find out the answers whether there is any association between firm performance and succession attributes.

In term of the contribution, this study is expected to increase the level of understanding with regards to family business firms especially in Malaysia. Particularly, this study uses sample of Malaysian public listed firms and the findings may be useful to Malaysian family businesses and the comparison can be made with family firms in other countries. Next, there is a lack of study carried out on family succession in Malaysia and elsewhere. Therefore the findings may explain the current situation on succession planning in Malaysia. It can also provide signals and guidance to the owners of family firms on the readiness of succession planning in Malaysia.

In term of the organization of this paper, it is structured as follows. In the introduction section, an overview on family successions is discussed. This is followed by the discussion on the motivation, objective and contribution of the study. The next part discusses the theoretical framework and hypothesis developments. Then research methodology is then explained in the next section. Followed by a section on results and discussions. The last section concludes and provides the implications of the study on academic and practice.

2.0 THEORETICAL AND HYPOTHESES DEVELOPMENT

2.1 FAMILY SUCCESSION

Family firms need to plan ahead in making sure the family firms will sustain for next generations. In planning for succession, factors such as family ownership, hiring professional manager or family director, successor's education level, founder/successor's age and gender need to be considered in ensuring a successful family business succession.

Family ownership

Based on the agency theory, family ownership is claimed to be efficient in minimising agency

problems because shares are in the hands of agents who have special relations with other

decision agents that allow agency problems to be controlled without separation of the

management and control decisions. Further, family members have many dimensions of

exchange with one another over a long horizon, and therefore, have advantages in monitoring

and disciplining the agents (Fama & Jensen, 1983).

In family firms, ownership is concentrated in the hands of family firms, therefore the risk of free riding is likely to diminish (Shleifer & Vishny, 1997). Jensen and Meckling (1976) and Fama and Jensen (1983) supported that a family's involvement in ownership and management could shun the problem of possible exploitative behaviour of the agent towards the principal, and minimise the supervision costs. While Gorriz and Fumas (1996) evidenced that agency costs are minimized when shares are concentrated in a few owners and these owners do all the decision process.

According to stewardship theory, ownership and control concentration is one of the factors that influence the effects of family relationships in family firms. Indeed, this variable helps explain the motivation for members to act as stewards of the firm versus their propensity to act destructively (Corbetta & Salvato, 2004). Researchers believed that family ownership do motivate directors to work in line with firm's objectives, thus maximise the shareholder wealth. Family directors are also able to avoid the exploitative behaviour of the agent. Therefore, family ownership may influence firm performance in a positive way. Thus, we hypothesize that:

H_1: Ceteris paribus, family directors that hold higher percentage of share ownership encourage higher firm performance than family directors with lower percentage of share ownership.

Owner or Professional Manager

Studies have found that family-owned and managed firms reach higher performance than those that are professionally managed (Monsen, Chiu, & Cooley, 1968; Daily & Dollinger, 1992). Previous studies also showed that the agency costs are significantly higher when professionals manage the firms (Ang et al., 2000). Nevertheless, professional directors play an important role in the family firms (Ibrahim et al., 2001). The professionals may have particular knowledge of the firm that may be proved to be valuable in mentoring of future-generation leaders, or filling in the leadership role (Lee et al., 2003). In larger firms, professionals have been found to play a critical role in strategic decision-making in family firms (Chua et al., 2003). Studies by Lauterbach and Vaninsky (1999) in Israel and Chittoor and Das (2007) in India found that management succession to a professional manager has a positive impact on the performance. Based on the above literatures, there were mixed results although the majority of studies showed that family managers outperform professional managers. Hence, this study hypothesizes that:

H_2: Ceteris paribus, family firm that is managed by family CEO has higher firm performance than family firm managed by professional manager.

Successor Education

Education background of the CEO that manages the company is also vital in ensuring the survival of the family firms. Today, the trend for enhancing successor education level has changed. Future prospective successors have been sent abroad by their parents for education. Successors also are opting for college in addition of working with someone else. In the past, families CEOs were found to posses fewer academic credentials (Brockhaus & Nord, 1979). Instead, the informal training received by children within the family may be a substitute to formal managerial training received through educational institutions (Lentz & Laband, 1990). Nowadays family firms need to give more attention to successor's education in ensuring the survival and growth of firms in the globalised world (Ibrahim & Ellis, 1994). Based on the above arguments, researchers expected that education to play a vital role in the family firm survival. Family firms need to have successors that are well educated, knowledgeable and well-equipped with current business situations. Then only the family firms can sustain in this competitive business atmosphere. Therefore, we hypothesize that:

> H_3: Ceteris paribus, successor with higher education level enhance firms' performance than successor with lower education level.

Founder/Successor Age

Brockmann and Simmonds (1997) argued that managerial success is positively correlated with age. It is argeud that when the manager is older in age, thus the chances of firm's managerial success is higher as compared to younger manager. This may also be due to the level of experience that the manager's possess. Older executives also tend to be more risk averse than younger executives (Carlsson & Karlsson, 1970). According to Smith and Amoako-Adu (1999) in Canada, the stock market reacts negatively to the appointment of young family successors. This reaction showed that due to successor's young age, investors seem to have less confidence and it also reflects a lack of management experience in the successors. Thus, age is also an important element in succession planning. Based on the arguments, it is hypothesize that:

> $H_{4:}$ Ceteris paribus, founder/successor that is more matured in age lead to higher firm performance than founder/successor that is young in age.

Gender

The successor's gender is also being a debated issue in family succession. Who shall be the next leader in the family firm? Most companies would prefer to select male compared to female successor. Alcorn (1982) suggested that family firms are similar to monarchies in which the eldest son becomes the uncontested successor. A study carried out by Kuratko (1993) in Korea found that for succession purposes, firms prefer a son to take over the firm. Kets de Vries (1996) observed that some family firms in the US still see the choice of a daughter as rather undesirable. In Chinese family business, male is also preferred more than female because the male successor will carry the family name. Moreover, male managers tend to be more competitive, have larger networks, more supportive, tough and able to faced competition. There is also a perception that male perform better than female. Moreover, male gets more supports from families such as from parents and wife.

Female successors, on the other hand are more nurturing, supportive in the work environment, do not focus on the financial performance as an important element for firm survival, but they are more likely to focus more on the primary objectives of the firm (Butner & Moore, 1997). Dumas (1989) and Hollander and Bukowitz (1990) suggested

that the father-daughter relationship is more harmonious and different in nature. Daughters willingly assumed the role of caretakers for both of the father and the business. They are less likely than sons to be in conflict with their fathers. A study by Fahed-Sreih and Djoundourian (2006) found that more than two-thirds of the Lebanese firms favor female CEOs in managing the family firms. The daughter-father relationship appears to be more mutually supportive and daughters appear to prepare more thoroughly than sons to take the control of the family business (Hartman, 1987). Nelton (1998) stated that daughters and wives are rising to leadership positions in family firms more frequently than in the past, and that the occurrence of daughters taking over businesses in traditionally male-dominated industries is increasing rapidly. Since the arguments about gender and performance are mixed, we hypothesize (in null form) that:

H_5: Ceteris paribus, there is no difference in performance between male and female successor.

Generations

Planning need to been made in ensuring that companies do have potential successors that can manage the firms for the next generation. Previous studies have claimed that family members often commit deeply to the mission of the firms, treasure its employees, stakeholders and feel motivated to do their best for the family and the organizational as a collective decision makers (Davis, Schoorman, Mayer & Tan, 2000; Miller & Le Breton-Miller, 2005). However, Morck and Yeung (2003) argued that the successor is likely to be less able to manage the firms when corporate control passes from the founder to the next generation. A study by Rodsutti and Makayathorn (2005) evidenced a strong influence of the founder when the firm was in the first generation, but not in later generation. Firm performance also increased when founding family members were involved in the management (Lee, 2006). McConaughy & Philips (1999) evidenced that the founder-controlled firms grow faster and invest more in capital assets and research and development. While the descendant-controlled firms generate more profit because of the experience of earlier generation. Therefore, based on the above arguments, researchers expected that later generation to have less impact on firm performance as compared to the founder generation. Moreover, in the later generations, family firms have already been established and there was plenty of capital. Thus, successors do not need to work hard from the scratch to create the image, reputation and market shares of the firms. With plenty of capitals and stable businesses, some successors may spend the business money excessively without proper planning. Therefore, we hypothesize that:

H_6: Ceteris paribus, founder (first generation) managed firm have higher firm performance than successor (later generation).

3.0   Research Method and Design

3.1   Sample Selection
This study utilised secondary data on the Malaysia public listed firms. The sample size used in this study were 975 Malaysian family firms listed on Main Board and Second

Board of Bursa Malaysia (excluding banking and finance, and insurance sectors)[402] over the period of 2003 to 2007. In determining the family firms, the data on family directors' profile, ownership, qualification, education level, age, gender, generation are obtained from the annual reports, company announcements and business magazines. All the data was hand collected. The financial data was gathered from the Thomson Financial Datastream Advance. A cross-checking is done with the annual reports to make sure the reliability of the data.

3.2 Research Model and Measurement

The research model is discussed as below.

$$Firm\ Performance_{it} = b_0 + FAMOWN_{it} + PROF_{it} + DIREDUC_{it} + DIRAGE_{it} + GENDER_{it} + GEN_{it} + DEBT + FAGE + FSIZE + v_i + e_{it}$$

Where:

FPERF	= Tobins Q
FAMOWN	= Family managerial ownership
PROF	= Professional non-family member
DIREDUC	= Successor education level
DIRAGE	= Founder/successor age
GENDER	= Successor gender
GEN	= Generation
DEBT	= Debt
FAGE	= Firm age
FSIZE	= Firm size
v_i	= Specific error
e_{it}	= Idiosyncratic error

3.3 Model Specification
Family firm was measured using dummy variable (0,1) to differentiate between family and non-family firm. The definition of family firm is in line with the previous studies (Villalonga & Amit, 2007; Anderson & Reeb, 2003). Family managerial ownership was measured using a continuous variable (percentage of direct and indirect shares). For succession variables, family manager/professional hired manager, successor education level, founder/successor age, successor gender and generations were measured using dummy (0,1) variables. The control variables were debt, firm age and firm size. Debt was defined as the book value of long-term debt divided by total assets. Firm age was defined as the number of years since incorporation. Firm size was measured as natural log of book value over total assets.

4.0 Results and Discussions
4.1 Univariate Tests

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[402] The industry is regulated under The Banking and Financial Act (BAFIA), 1989. The BAFIA (1989) allow Financial Institutions (FIs) to make portfolio investments in non-financial business up to a maximum of 20% of a FIs shareholders' funds and up to 10% of the issued share capital of a company in which the investment is made. The FIs are not allowed to assume any management role to take up a board position (Chu & Cheah, 2004).

Table 1
Profile of the Sample Based on Sectors (n= 975)

	Frequency	%
Consumer products	195	20.0
Industrial products	325	33.3
Plantations	75	7.7
Trading services	120	12.3
Constructions	100	10.3
Infrastructure projects	5	.5
Technologies	20	2.1
Hotels	10	1.0
Properties	125	12.8
Total	**975**	**100.0**

Based on Table 1, 33.3% of family firms in Malaysia involved in industrial products. The second highest is the consumer products sector with 20% involvement. The next sectors are the properties (12.8%), trading services (12.3%), constructions (10.3%) and plantations (7.7%). Others sectors such as technologies, hotels, properties and infrastructure projects have seen a small involvement by the family firms.

Table 2
Descriptive Statistics for Variables (n= 975)

	Min	Max	Mean	SD
TOBINS Q	0.189	0.999	0.799	0.112
FAMOWN	.00	84.14	42.798	1 5.747
PROF	0	1	0.52	0.5
DIREDUC	0	1	0.56	0.496
DIRAGE	20	85	49.87	10.766
GENDER	0	1	0.96	0.194
GEN	0	2	1.28	0.461
DEBT	0	1	0.08	0.117
FSIZE	10.102	17.339	12.731	1.158
FAGE	0	53	7.79	9.536

Table 2 explains the mean for Tobins Q is 79.9%. ROA only show a smaller mean of 3.2% as compared to Tobins Q. For family ownership, the average shareholdings by family members are around 43%. Interestingly, about 24% of Malaysian family firms have started to hire professional managers in managing the family firms. This indicates that family firms have considered accepting ideas and outside manpower in making sure that family firms will sustain for the future years. In term of founder or successor age, the average age is about 50 years. In term of generations, most of Malaysian family firms are in the second generations and only few companies that are in third generations.

Table 3
T-test for the Hypotheses Variables (n=975)

Variable	Tobins Q
	t-value
FAMOWN	5.099***
PROF	4.95***
DIREDUC	-.039
DIRAGE	.296
GENDER	-.297
GEN	-2.558**

Note: For univariate analysis, FAMOWN is dischotomized by splitting the sample into high family ownership (.50%) and low family ownership (<50%). For DIRAGE, mature CEO is defined as those with the age of 40 years and above. Other variables are dummy variables.

Based on the t-test results, Table 3 reveals that there is a difference between family ownership and firm performance when Tobins Q was used as the performance indicator. Meanwhile other variables such as FAMOWN, PROF and GEN also shown a significant different with firm performance. The result shows that the higher the percentage of ownership owned by family managers, the higher the firm performance. This is because the interests of the managers are in line with the incentives that they deserved. Also, result shows that professional manager do enhance firm performance. However, this study found that Malaysian family firms do favour younger generations in managing the firm than the older generations. The young generations may be able to take higher risk, more creative, innovative and their ideas are in line with the current business environment.

4.2 Multivariate Test

Table 4
Panel Data Analysis Using Random Effect Model for Tobins Q (n=975)

	Coef	Std. Error
Constants	1.087	.1336
FAMOWN	.001***	.0002
PROF	-.044	.0401
EDUC	-.097*	.0572
AGE	-.003***	.0019
GENDER	.021	.0498
GEN	.037	.0317
DEBT	.078***	.0298
FSIZE	-.016*	.0084
FAGE	.002**	.0009
F Stat (9, 771)		3.81
Prob > F		.0001

Table 4 reveals the results from this study using panel data regression approach. Interestingly, the results from this study do support hypotheses H_1, H_3 and H_4. However H_2, H_5 and H_6 were not supported. In this analysis, Tobins Q was used as a firm performance indicator. It was found that family ownership do positively relate with firm performance. This finding supported previous studies that family ownership minimized the agency costs in the firms positively affect firm performance. Moreover, family managers were stewards of the companies, so they worked seriously to maximise the shareholders wealth. Thus, the firm value was enhanced (Fama & Jensen, 1983; Shleifer & Vishny, 1997; Gorriz & Fumas, 1996; Corbetta & Salvato, 2004). Next, result also indicates that director's education is negatively related with firm performance. This finding contradicts with previous literatures. In term of successor age, it was found to be significant, but in the opposite direction. It shows that younger successors perform better than older. Perhaps, younger managers are more energetic and eager to show their potential to their family members and hence this increases the firm performance level. Young managers were claimed to be more aggressive as compared older owners (Carlsson & Karlsson, 1970). Control variables (debt, firm size and firm age) were found to be significantly related with firm performance. In term of debt, the higher the debt value, the higher the firm performance. Also, result found that older the firms operated in the business have higher firm value. But in term of the firm size, large firm do have lower firm value as compared to small firm size.

5.0 Conclusion

Overall, family ownership do positively affect the firm performance. It shows that ownership is one of the mechanisms that help increase family firms performance. Moreover, younger managers perform better. They are more energetic, visionary individuals and risk takers as compared to older managers. In term of the implication of this study, further studies can be research out on the topic of family succession because it is still new in Malaysian context. Clearly, Malaysian family businesses have started to plan for their succession in ensuring that firms sustain for next generations. Furthermore, standard setters and policy makers need to be aware that family firms do have certain characteristics (i.e. high familiness and family ties) that make them different from non-family firms. Thus, the implementations of rules and regulations need to consider these unique characteristics.

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7.3 Social and Environmental Accounting

DETERMINANTS OF NON-REPORTING OF SOCIAL AND ENVIRONMENTAL INFORMATION BY MALAYSIAN COMPANIES: EMPIRICAL EVIDENCE FROM THE PERSPECTIVE OF PROPRIETARY AND INFORMATION COSTS
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Abstract

This study attempts to identify factors influencing non-reporting of comprehensive social and environmental information in the annual reports of Malaysian listed companies from the perspective of proprietary costs and information costs. Several proxies for proprietary costs and information costs have been used in this study to investigate the factors influencing non-reporting of such information. It is found that profitability, capital intensity, size of company, leverage, concentrated ownership, trading volume and reliance on capital market have significant relationship with non-reporting of comprehensive social and environmental information. The result of this study reveals that the costs of disclosure and the benefits of disclosure from information costs saving influence the non-reporting of social and environmental information.

INTRODUCTION

Despite evidence of low level of social and environmental disclosure among Malaysian companies (see for example ACCA, 2004; Bursa Malaysia, 2008; Hasnah, Ishak & Sofri, 2007), very limited studies have attempted to examine factors influencing non-reporting of social and environmental information among the listed companies. To the contrary, most studies have instead focused on the practices of the minority group of companies by investigating factors motivating reporting of social and environmental information. Such phenomenon is partly resulted from influence of research findings reported by leading researchers in the developed nations. Nevertheless, it is critical to understand that the level of social and environmental reporting is very high among developed nations (Aerts, Cormier & Magnan, 2006; Cormier & Magnan, 2003; KPMG & University of Amsterdam, 2005), hence, it provides a good avenue to understand such practices in greater depth. Much research, however, concluded that reporting of social and environmental information in Malaysia is still at infancy stage.

It is undeniable that social and environmental problems have emerged to be a major global issue. Such information is even more critical and highly relevant among developing countries following their aggressive development plans to transform into developed nations. In view of the low level of social and environmental disclosure among developing countries, it creates an urgent need to address the issues of non-reporting of social and environmental information among companies in these countries. Some of the policies makers have clearly indicated their concerns over such matters. For instance, Malaysian government has expressed deep concerns over the issues of sustainable development following a number of environmental problems caused by industrial activities such as dumping of toxic, ecological damage, river pollution, air pollution and landslides. As an attempt to encourage Malaysian companies to report social and environmental information, the Ministry of Science, Technology and Environmental has launched the Environmental Reporting Guidelines for Malaysian companies that were published by the ACCA in 2003 and Sustainability Guidelines in 2004 as an incentive for corporations to start their social and environmental reporting.

Recent study by Noriah, Phua and Fauziah (2009) found that 61 percent of Malaysian main board companies do not report their social and environmental information in a separate statement of their annual reports. This indicated that even majority of big size companies did not show their interest or concern about environmental and social reporting which can contribute to sustainable development for future generations. Given that social and environmental reporting has captured considerable attention worldwide in view of the importance of such activities on long run sustainability of resources and well

being of society, it is thus of interest to understand why majority of Malaysian companies is not providing comprehensive social and environmental reporting. This study examines the determinants of non-reporting of social and environmental information in annual reports by Malaysian companies. Specifically, this study attempts to fill the research gap by investigating whether the non-reporting of comprehensive social and environmental information is associated with the proprietary costs and information costs.

This study analyses the content of 368 annual reports of Malaysian companies for the financial year 2006 to investigate the status of non-reporting of social and environmental information in a separate section of their annual reports. Then, this study examines the variables measuring proprietary costs (e.g. profitability, capital intensity, size of company and leverage) and information costs (e.g. systematic risk, foreign ownership, concentrated ownership, trading volume and reliance on capital market) and investigates their relationship with non-reporting of social and environmental information.

This study found that companies with lower profitability, lower assets, lower capital intensity, higher leverage, lower trading volume, higher concentrated ownership and less reliance on capital market are more likely not to report their social and environmental information comprehensively in their annual reports. Thus, the result of the study provides empirical evidence that the non-reporting of social and environmental information is associated with the costs and benefits of disclosure.

This paper is organized as follows: Section two discusses the previous studies and development of the hypotheses. Section three explains the research design. Section

four presents the findings of this study. The last section is discussion and conclusion of the study.

PRIOR STUDIES AND HYPOTHESIS DEVELOPMENT

The proprietary costs theory suggests that existence of proprietary costs will motivate managers to withhold certain information (Verrecchia, 1983). According to Soffer (1998), in situation where legitimacy gap does not exist, the disclosure of social and environmental information involves higher costs and it will thus lead to non-disclosure of such information. Similarly, Foster (1986) indicates that the cost of disclosure, such as collecting, processing, litigation, political and competitive disadvantage cost, is one of the important factors that company's managers consider whether or not to disclose more information. Further, he argues that the cost of collecting and processing the information would be significant if a company never disclose such information in prior years. Similarly Li, Richardson and Thornton (1997) suggest that a company's decision to disclose or not social and environmental information is influenced by the cost of disclosure.

Although society perceived that non-disclosure of social and environmental information indicated that the management of companies are not efficient (Diamond, 1985), however, managers are reluctant to disclose such information when greater direct costs in terms of gathering and distribution of social and environmental report incurred (Leuz & Wysocki, 2006). Furthermore, Leuz and Wysocki (2006) also argue that the amount of time managers spend to prepare a report is a significant opportunity costs for them especially for small companies.

In addition, a company will also incur additional cost which is referred to as proprietary costs or competitive disadvantage costs when their stakeholders such as competitors, suppliers, customers, labour group and regulator use their reporting information for their personal benefit which can give a negative impact to the reporting company (Leuz & Wysocky, 2006). For instance, the above parties can use the information disclosed by companies to reassess their contractual relationship with the company which in turn may reduce the company's cash flow (Cormier & Magnan, 1999). Social and environmental information such as environmental liability, ecological activity, energy saving program, community involvement, human capital training are proprietary information because they are not easy to produce and the disclosure of such information may be used by their stakeholders for their own benefit which can give a negative effect to a company's share price and debt agreement (Cormier & Gordon, 2001).

Earlier study by Gray and Roberts (1989) found that competitive disadvantage and the cost of preparation of information are the major constraint of voluntary reporting among multinational companies. Later, Edwards and Smith (1996) through a questionnaire survey and in-depth interviews with financial directors of companies found that their concerns about competitive disadvantage ranked second among reasons given for deciding not to disclose more voluntary segmental information. The manager of companies perceived that their reported information will be observed by their competitors and customers and then use this information in a way that may harm the firm's prospects. Similarly, a study by Prencipe (2004) confirmed that proprietary costs reduce the motivation of companies to disclose more information about their segment. She argues that voluntary information is difficult to generate, thus the reporting of this

information will benefit their competitors. Moreover, study by O'Dwyer (2002) found that managers perceived that the cost of social and environmental disclosure is high, therefore, they only report minimal information. The extent of collection and proprietary costs depend on the profitability of companies, size of companies, capital intensity and leverage (Cormier & Magnan, 1999; Cormier & Gordon, 2001).

Leuz (1999), Mohammad, Abdullah and Junaini (2007) and Robert (1992) reveal that proprietary costs are high for low profitability companies as reporting of social and environmental information could diminish the confidence of their stakeholders. Cormier and Magnan (1999) argue that the tendency of company's stakeholders to re-examine their contractual relationship with low profitability companies which reported their social and environmental activities is high because they perceive that these companies are not able to finance such extra activities. The companies' stakeholders may assume that companies suffering from bad financial condition will reduce the daily operation of the business and other potential investments in order to funding their social and environmental activities. Therefore, Cormier and Magnan (1999) indicate that low profitability companies are reluctant to report social and environmental information.

H1: There is a negative relationship between profitability of company and the non-reporting of social and environmental information.

Proprietary costs theory asserts that the disclosure of additional information can be used by their competitors for their own benefit such as replicating the innovative activities presented by companies (Prencipe, 2004). In a situation where the capital intensity of companies is high, they are motivated to report more information because the barrier of

entry is high (Darrough & Stoughton, 1990; Leuz, 1999). However, when the capital intensity of companies is low, the proprietary costs for the reporting company are high since the barrier to avoid the competitors to implement similar activities decreased. Therefore, a company with low capital intensity is not motivated to report social and environmental information.

H2: There is a negative relationship between capital intensity of company and the non-reporting of social and environmental information.

Leuz (1999) and Mohammad et al. (2007) state that the costs of collecting, processing and disseminating information are small for big companies due to a large number of fixed components. Similarly, proprietary costs are found to be small in large companies compared to the benefits of disclosure, therefore they are motivated to report additional information (Craswell & Taylor, 1992). Jensen and Meckling (1976) point out that the existence of political costs such as additional regulations, increased tax and social commitment limit the reporting of social and environmental information. Therefore, no additional disclosure will be made by a small company because the costs of preparation and proprietary costs for a small company are high.

H3: There is a negative relationship between the size of company and the non-reporting of social and environmental information.

According to proprietary costs theory, the competitive disadvantage costs in highly leveraged companies are significant; therefore they will not report additional information (Cormier & Gordon, 2001). They argue that the reporting of social and environmental information especially environmental liability and commitment expose the area of a company's risk. Hence, if the reporting company has a high leverage, the proprietary

costs is increased as existing lenders may revise their debt contract or potential lenders may be reluctant to finance the company's project, thus non-reporting of additional information will increase. Cormier and Magnan (2003) argue that for low leveraged company, the proprietary costs are not significant compared to the benefits from disclosure of additional information; therefore they will disclose more additional information. Hence, in such situation, non-reporting of additional information is low.

H4: There is a positive relationship between leverage of company and the non-reporting of social and environmental information.

Several authors have emphasized that the disclosure of social and environmental information will provide a lot of benefits such as increasing the company's profitability (Balabanis. Phillips & Lyall, 1998; Robins, 2005), decreasing the cost of capital (Richardson & Welker, 2001), decreasing operating costs, attracting and maintaining good employees, increase customer loyalty, increasing corporate image, strengthening their relationship with stakeholders and increasing the company's value (ACCA, 2005; Fraser, 2005). However, most companies still refuse to disclose additional information because they perceived that social and environmental reporting will not give a lot of advantages to their companies (Nik Nazli & Nor Liana, 2003).

One of the benefits of public disclosure is a reduction in the costs of information collection by individual investors, which in turn increases the liquidity of the market, raises the current stock price and reduces the cost of capital (Botoson, 1997). Therefore, in situation where numerous investors privately collect the information, the companies are motivated to disclose voluntary information to save information cost (Cormier &

Magnan, 1999). On the other hand, he reveals that companies will not disclose additional information if less investors collect the information themselves since there is no potential costs savings.

The reporting of social and environmental information is a strategy used by companies if they perceived that the disclosure of information can benefit them in terms of increasing their legitimacy and managing risk (Khor, 2005). Previous studies by O'Dwyer (2002) and Perry and Sheng (1999) found that social and environmental information disclosure by companies is based on their perception about the benefit from the disclosure. Specifically, they found that companies are reluctant to disclose more information if they perceived that the disclosure cannot improve the relationship with their stakeholder. Azlan (2005) also found that the management of a company is very selective and only disclose the information about social and environment which can give economic benefits to them. The reporting of social and environmental information by companies can also benefit them through the reduction in the information collection cost of individual investors, hence increasing the share price and reduce the cost of capital (Diamond & Verrecchia, 1991). According to Diamond (1985), the information cost savings are equivalent to the sum of the production costs by individual investors. He indicates that the companies will not disclose voluntary information if only a small number of investors need the information since there is no possible cost savings. The extent of information cost saving depends on the company's risk, ownership structure, trading volume and reliance on capital market.

Balabanis et al. (1998) indicate that market performances of the companies are considered stable if their systematic risks are low; therefore it is easy for investors to access the value of the firm. Consequently, no additional information will be collected by individual investors. In this circumstance, Scott (1994) argues that companies will not report voluntary information because no information costs saving will be gained by a reporting company. Moreover, the reporting of additional information can only increase the proprietary costs (Cormier & Magnan, 1999).

H5: There is a negative relationship between systematic risk and the non-reporting of social and environmental information.

The existence of a large proportion of equity ownership by foreign investors in developing countries is due to the increase demand for capital to finance their business operations (Gillan & Starks, 2003). Foreign investors will collect more information about social and environmental activities because they are more concern with sustainability issues. Therefore, the disclosure of such information by companies can decrease the cost of collection by individual foreign investors, thus will provide benefits to the reporting company (Cormier & Magnan, 1999). In contrast, if the proportion of foreign investors in the companies is low, not much information about social and environmental information will be generated by this type of investors. Therefore the companies are not motivated to report such information since the benefits of disclosure from information costs saving is low compared to the proprietary cost incurred (Scott, 1994).

H6: There is a negative relationship between foreign ownership and the non-reporting of social and environmental information.

In closely-held ownership structure, major investors acquire information directly from companies since most of them are executives or sit in the board of directors of those companies (Leuz, 1999). In concentrated ownership, only limited shareholders will obtain benefits from public disclosure, hence the information cost saving is minimal (Aerts et al., 2006; Cormier & Magnan, 1999; Leuz, 1999) and the proprietary cost is high (Scott, 1994). Similarly, Diamond (1985) indicates that the welfare improvement and risk sharing from the public disclosure will not evolve if the investors only incurred a low cost to acquire the information. Therefore, closely-held companies are reluctant to report additional information including social and environmental activities (Cormier & Magnan, 1999).

H7: There is a positive relationship between concentrated ownership and the non-reporting of social and environmental information.

One of the indicators for liquidity of company's share is based on the number of trading volume (Leuz, 1999). Higher trading volume specifies that a company is followed by substantial shareholders, thus more information will be produced by individual investors (Cormier & Magnan, 1999). Since individual collection of information is costly, the release of public information by companies will benefit them in term of reducing the information costs (Leuz, 1999; Scott, 1994). On the other hand, in a situation where trading volume is low, not much information will be generated by individual investors, hence non-reporting of social and environmental information will be adopted by companies because the benefits of disclosure is less than the cost of disclosure.

H8: There is a negative relationship between trading volume and the non-reporting of social and environmental information.

Botoson (1997) and Leuz and Wysocki (2006) reveal that companies which rely on capital market will report more voluntary information to satisfy the demand of capital market participants, it will in turn increase the price of the share and reduce the cost of capital. In the absence of additional disclosure, market participants will presume the worst condition regarding such companies, as a result, corporate image of these companies may drop (Cormier & Gordon, 2001). Cormier and Magnan (1999) specify that the benefit of disclosure outweighs the costs in this situation. Alternatively, non-disclosure of social and environmental information will be made by companies which are not too relying on capital market because the collection and proprietary costs are high compared to the benefit from the disclosure.

H9: There is a negative relationship between reliance on capital market and the non-reporting of social and environmental information.

METHODOLOGY

Identifying Non-reporting

Non-reporting of comprehensive social and environmental information is conceptualized as the non-reporting of voluntary information about environmental, human resources, community, product and energy in a separate heading or separate section or sustainability section in the annual report. According to Gray, Kouhy and Lavers (1995) the reporting of information about social and environmental activities in a separate section of an annual report or separate booklet exhibits the significance of that information. Besides, the reporting of such information in sustainability reports such as the sustainability section in the annual report or stand-alone sustainability report

indicates high commitment of companies in contributing to sustainable development (Commonwealth of Australia, 2005). Therefore, social and environmental information which is not presented in a separate heading or separate section or sustainability section of an annual report is considered as a non-reporting in this study since it has not really captured the company's commitment to sustainable development (Global Reporting Initiative (GRI), 2006).

Mandatory human resources information such as employee expense (salary, wages, bonus) (FRS 101), employee benefits (FRS 119 & 126), the number of employees (FRS 101) and employee share purchase option (ESOS) (FRS 2) are excluded from the definition of social and environmental disclosure as this study only focuses on voluntary information.

Non-reporting Model

Binary logistic regression was tested to examine the relationship between dependent and independent variables. This study proposed the following model:

$$NDISCL_i = \beta_0 + \beta_1 PROFIT + \beta_2 CAPITAL + \beta_3 SIZE + \beta_4 LEV + + \beta_5 RISK + \beta_6 FOREIGN + \beta_7 CONCENT + \beta_8 VOLUME + \beta_9 RELIANCE + e_i$$

Non-reporting of social and environmental information (NDISCL) which is the dependent variable is dichotomous and takes the value of either 1 (non-reporting) or 0 (reporting). The independent variables in the model consist of four proxies for proprietary costs and five proxies for information costs. The proprietary costs are proxied by profitability (ROA), capital intensity (CAPITAL), size of company (LNASSET) and leverage (LEVERAGE). Profitability is measured by return on assets (Freedman & Jaggi, 2005), capital Intensity is net property, plant and equipment divided by total assets (Leuz, 1999), size of

company is based on natural log of total assets (Hackston & Milne, 1996) and leverage is measured by total debt divided by total equity (Oyelere, Laswad & Fisher, 2003). The information costs are proxied by systematic risk (RISK), foreign ownership (FOREIGN), concentrated ownership (CONCENT), trading volume (VOLUME) and reliance on capital market (RELIANCE). Systematic risk is measured by time series least squares regression on monthly stock price (Botoson, 1997), foreign ownership is the percentage of ordinary shares held by foreign shareholders in the list of thirty largest shareholdings (Fauzias & Zunaidah, 2007), concentrated ownership is the percentage of ordinary shareholding of 5% or more (Yue-Duan et al. 2007), trading volume is measured by annual trading volume divided by total shares outstanding (Cormier & Magnan, 2003) and reliance on capital market is a dummy variable which takes the value of '1' if change in firm debt to equity ratio is more than 20% or '0' otherwise (Cormier & Magnan, 2003).

Data Collection and Sample Description

This study drew on all companies listed on the Main Board of Bursa Malaysia at the end of the year 2006. Year 2006 was chosen because this was the final year for which social and environmental reporting is voluntary. From year 2007 onwards, the Bursa Malaysia Listing Requirement requires all Malaysian public listed companies to report their social and environmental information (Bursa Malaysia, 2007). The total number of companies listed on the Main Board in year 2006 was 648 (Bursa Malaysia, 2006b). However, this study excluded those PN4 and PN17 companies due to their financial problems. The total number of PN4 and PN17 companies at the end of 2006 was 9 and 12 respectively. The companies' annual reports were downloaded from the Bursa Malaysia website. There were some companies whose annual

reports were not available; therefore this study excluded such companies from the analysis. Information about social and environmental activities, financial characteristics and ownership structure were gathered from annual reports and datastream. After excluding companies with missing data, the final sample consists of 368 companies.

The characteristics of the sample based on industry classification are displayed in Table 1. The table shows that the total number of non-reporting companies is 252 whereas the number of reporting companies is 116. The sample represents 57 percent of the Bursa Malaysia Main Board companies inclusive all industry types namely Industrial Product, Consumer Product, Trading/Service, Plantation, Technology, Construction, Finance, Properties, Hotel and Infrastructure. The table shows that Industrial Product represents the largest number of companies in the sample which is 89, followed by Properties (71), Trading/services (70) and Consumer product (49). There are three industries which the number of companies represented in the sample are low such as Hotel (4), Technology (4) and Infrastructure (6). Although the number of companies in these three sectors is small, however they represent 100 percent of Hotel sector, 25 percent of Technology sector and 67 percent of Infrastructure sector.

<center>(INSERT TABLE 1 HERE)</center>

EMPIRICAL RESULTS

Univariate Analysis

Table 2 gives the descriptive statistics of continuous independent variables included in the study, partitioned by non-reporting companies and reporting companies. Comparing

between non-reporting and reporting companies using t-test shows that non-reporting companies have lower return on assets, lower profit margin, lower total assets, lower total sales, lower foreign ownership, lower concentrated ownership and higher trading volume than reporting companies. With the exception of trading volume, the difference in means for the above variables is statistically significant at 1% level. On the other hand, the test statistics suggests that the mean difference for trading volume is only significant at 5% level. Comparatively, the mean values for return on assets, trading volume and concentrated ownership are almost identical between non-reporting and reporting companies. By contrast, the mean of foreign ownership for non-reporting companies is two times lower than reporting companies while the mean for profit margin in non-reporting companies is five times lower than reporting companies. As for total assets, the mean is ten times lower and for total sales the mean is nine times lower in non-reporting companies compared to reporting companies. Statistically, there is no significant difference between non-reporting and reporting companies, in terms of return on equity, reliance on capital market, leverage and systematic risk.

Table 3 reports the chi-square test for dichotomous variable which was performed to test the difference in reliance on capital market between two groups of companies. Result shows that there is no significant difference in reliance on capital market between non-reporting and reporting companies.

<center>(INSERT TABLE 2 AND TABLE 3 HERE)</center>

Multivariate Analysis

Table 4 presents the Pearson Correlations between the continuous independent variables. The results show that the explanatory variables which have significant correlations are between systematic risk and return on assets (-0.354), and between trading volume and concentrated ownership (-0.362). Return on assets which has a negative significant correlation with systematic risk shows that companies with high return on assets has a lower risk. In addition, trading volume which has a negative relationship with concentrated ownership indicates that the percentage of shares traded by company's decreases as the percentage of shareholders who own five percent or more shares increases. Other independent variables have the correlation coefficients less than 0.3. Further analysis using ordinary least squares regression shows that the variation inflation factors (VIF) are less than 10 and tolerance values are more than 0.10 indicating absence of multicollinearity problems among the independent variables.

(INSERT TABLE 4 HERE)

Table 5 depict the results of binary logistic regression. The results show that the full model containing all predictors was statistically significant with a strong explanatory power (χ^2 = 315.163; d.f = 9; p = 0.000) indicating that the model was able to distinguish between companies which do not report and companies which report social and environmental activities. The model as a whole explained between 57.5 percent (Cox and Snell R Square) and 80.8 percent (Nagelkerke R Squared) of the variance in non-reporting status. In addition, McFadden Pseudo-R^2 shows that 68.7 percent of the independent variables were able to explain the variance in non-reporting of social and environmental information.

The percentage accuracy of classification (PAC) for the model is 90.8 percent which shows an improvement from 68.5% before the inclusive of all independent variables. The model was able to correctly classify 94.4 percent of companies which do not report social and environmental activity and 82.8 percent companies which report social and environmental activities correctly predicted to report this activity.

<div align="center">(INSERT TABLE 5 HERE)</div>

Results from Table 5 reveals that profitability (ROA), capital intensity (CAPITAL), size of company (LNASSET), leverage (LEVERAGE), concentrated ownership (CONCENT), trading volume (VOLUME) and reliance on capital market (RELIANCE) are significantly associated with non-reporting of social and environmental information. ROA, LNASSET, LEVERAGE and CONCENT are significant at 1 percent level, whereas other independent variables (CAPITAL, VOLUME and RELIANCE) are only significant at 5 percent and 10 percent level. Only systematic risk (RISK) and foreign ownership (FOREIGN) are not associated with non-reporting of social and environmental information.

<div align="center">

DISCUSSION AND CONCLUSION

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Profitability was found to be significantly and negatively related to the non-reporting of social and environmental information. The finding of this study suggests that when the profitability of companies is low, they are more likely not to report such information comprehensively in their annual reports. This result is expected because in the situation when companies do not make large profit, they are likely tend to hide certain activity

which is not related to their bottom line in order to reduce the proprietary costs. This result contradicts with previous studies carried out by Azlan (2005), Hackston and Milne (1996) and William (1999). Their studies which focused on the disclosure of social and environmental information found that profitability does not influence the level of corporate social responsibility disclosure. However, this study provides evidence that profitability is an important factor for non-reporting of this information by Malaysian companies.

Cormier and Magnan (1999) mentioned that conducting corporate social responsibility activities are not free and it involves a lot of money especially for environmental activity. Furthermore, companies are also trying to avoid investors from thinking that companies have used their limited fund to finance corporate social activities. Moreover, in poor financial condition, investors are likely to expect that companies will use their scarce resources to invest in other potential investment in order to increase future profitability. On the other hand, if companies report more social and environmental activities they will be questioned by their stakeholders on how they finance all those activities. Due to all these problems, shareholders and investors will have lack confidence to maintain their investment and this will cause reduction of companies' cash flow and increase of proprietary costs (Cormier & Gordon, 2001; Cormier & Magnan, 2003).   Although several authors and practitioners argue that corporate social responsibility can indirectly increase the profitability of companies in the long run (ACCA, 2005b; Robin (2005), however, in Malaysia, most of the stakeholders especially investors are only concern about the profitability of companies in the short run. Additionally, they tend to ignore about the responsibility of companies to contribute to the quality of life for future

2269

generations. As mentioned by Che Zuriana (2008) in her interview with the management of hotel industry in Malaysia, the main interest of Malaysian stakeholders is report of financial performance report rather than corporate social responsibility report. Therefore, the managements of companies are reluctant to report comprehensively their environmental management practices to their stakeholders.

Capital intensity was found to be significantly and negatively related to the non-reporting of social and environmental information. This result suggests that company which has low capital intensity is more likely not to report their social and environmental information in an annual report. The result clearly evidence that capital intensity is a vital determinant of non-reporting of such information. Aerts et al. (2006) and Leuz (1999) support the result in that they suggest that capital intensity is an important indicator which is considered by companies whether to report or not to report certain voluntary information. Capital intensity represents the amount of physical assets such as property, plant and equipment used by companies to run their operation in order to generate revenue. High capital intensity imposes entry barriers into certain industry (Street Authority, 2009). Therefore, companies with low capital intensity signify that there is absence of barrier of entry, this means new companies can easily establish their business and compete with those existing companies. Since social and environmental information are proprietary information which can be used by other companies for their own benefits such as to enter a market, hence, the incumbent companies are reluctant to provide additional information when their capital intensity is low. Under such circumstance, low capital intensity companies are motivated to withhold that information in order to protect their future benefits.

The logistic regression result indicates that size of company influences the non-reporting of social and environmental information. The coefficient is significantly negative which suggests that small size company is more likely not to report such information in a separate statement of an annual report. The result is consistent with previous empirical study, Hossain and Adam (1995) which reveals that the size of company is one of the significant reasons in explaining the reporting and non-reporting of voluntary information. Furthermore they argue that the costs of collection, publishing and competitive disadvantages are higher for smaller companies compared to larger companies, therefore smaller companies are not motivated to report such additional information. In addition, small companies are not relying comprehensively on capital market to finance their operations as compared to larger companies (Oyelere et al., 2003), therefore small companies are not motivated to report such information because the benefit of disclosure is less than the cost of disclosure. In contrast, Mohammed et al. (2007) argue that proprietary costs in larger companies are lower because they have minimal competitors and received a complete support from their various stakeholders. Therefore, larger companies are more motivated to report comprehensive social and environmental information in their annual report.

The result of logistic regression clearly explains that leverage is a significant indicator for non-reporting of social and environmental information. It seems to suggest that highly leverage companies are more likely not to report such information at length in their annual reports. This result reinforces the viewpoint proposed by proprietary costs theory that large amount of proprietary costs in high leverage companies resulted in higher

non-reporting of such information (Cormier & Gordon, 2001). As mentioned by Ahmed (1996), companies with large amount of borrowing will be scrutinized thoroughly by their financial providers in order to assess the ability of those companies for repayment of their loans. Rabelo and Vasconcelos (2002) also indicate that companies in developing countries mostly rely on debt to finance their business. Similarly, in Malaysia, banking institutions play a vital role in corporate financing (Thilainathan, 1999). Since the engagement of social and environmental activities involve certain amount of companies' fund, therefore banking institutions may speculate that highly leverage firms which shows a high commitment in such activities are not able to pay their debts. Furthermore, the reporting of environmental activities and obligations by companies will likely expose companies' weaknesses and problems. Proprietary costs will exist in situation where banking institutions are not confident with the financial condition of highly leverage companies and in turn they will reevaluate their debt contracts or refuse to provide additional financing to those companies. In this circumstance, the future cash flow of those companies will reduce and give a negative impact to their overall operations. Hence, non-reporting of social and environmental information is more likely to be a regular practice in a highly leverage firm.

Regression result does not provide evidence that systematic risk influence the non-reporting of social and environmental information. The result contradicts with proprietary costs theory which believes that the low risk companies are more likely not to report social and environmental information due to limited benefit as compared to the collection and proprietary costs (Cormier & Magnan, 1999). The insignificant result might be due to the preference of Malaysian investors which only look at accounting performance rather

than stock market performance to evaluate the companies' value. Moreover, Thilainathan (1999) reveals that Malaysian companies have lower risks or higher returns due to the nature of shareholdings in Malaysia which are concentrated ownership and also there is a constraint on competitions in Malaysian business environment. Descriptive statistics in Table 2 shows that the mean for systematic risk for non-reporting and reporting companies is only 1 percent. Realizing this circumstance, Malaysian companies are more likely not to depend on the risk in deciding whether or not to report their social and environmental activities.

Foreign ownership was found not to be significantly related to non-reporting of social and environmental information. This result suggests that foreign ownership does not act as an indicator of non-reporting practice. Hence, the result seems to imply that the role of international investors is not really functioning as argued by the literature in corporate governance (Fauzias & Zunaidah, 2007; Haniffa & Cooke, 2005; Yue-Duan et al., 2007). Although it is argued that low proportion of foreign ownership in local companies will lead to non-reporting of social and environmental information due to low benefit received by the companies as compared to proprietary cost incurred, this situation does not exist in Malaysia. The unexpected result can be explained by looking at the nature of foreign investors. In Malaysia, most of foreign investors are foreign institutional investors or fund managers (Thillainathan, 1999). Further he states that these types of foreign investors did not play their role to enhance corporate governance of companies, however, they are more interested to observe the performance of their invested companies through their own research or visit the companies personally. Therefore, it shows that public disclosure by companies in Malaysia is not the most important source of information

used by foreign owners to gather information about corporate social responsibility performance.

Concentrated ownership was found to be negatively related and contribute to the non-reporting of social and environmental information, however its direction is unexpected as this study anticipates a positive coefficient. The result of this study clearly implies that non-reporting of social and environmental information is more likely to occur in companies with low concentrated ownership whereas highly concentrated ownership companies are more likely to report this information. Therefore, it is not consistent with most of previous studies and proprietary costs theory which argue that companies with high concentrated ownership are reluctant to report social and environmental information because the benefits of disclosure through information costs saving is less than their costs (Aerts et al., 2006; Cormier & Magnan, 1999). The contradicting direction as reported by this study is believed to be influenced by the controlling power held by shareholders who owns large percentage of voting shares in those companies. Although the reporting of voluntary information can reduce the information costs in low concentrated ownership or dispersed ownership, however, individual shareholders in this type of ownership have less control over the companies' strategies including reporting policies and practices (Zeckhauser & Pound, 1990). Therefore, non-reporting of social and environmental information is more likely to be found in low concentrated ownership companies.

Ahunwan (2002) states that ownership concentration of developing countries corporations is high and Claessens, Djankov and Lang (2000) found that half of the East

Asian companies are family-controlled firms. Likewise, shareholding of Malaysian public listed companies is highly concentrated with family as a dominant shareholder (Thilainathan, 1999). Therefore, these family companies which is also known as owner-managers are so dominant and have the entrenchment power (Morck & Yeung, 2003) which can influence the companies' decision making. Specifically, Tsamenyi, Enninful-Adu & Onumah (2007) conclude that concentrated block ownership does affect the amount of voluntary item to be disclosed by companies. Hence, even though the benefit of reporting of additional information in highly concentrated ownership is argued to provide only minimal benefit in term of information costs saving since less investors generated the information from these companies (Leuz, 1999), however the increased reporting of such information may be due to lack of experience or expertise of their managers which are mostly appointed among their family members (Schulze, Lubatkin, Dina & Buchholtz, 2001; Hendry, 2002). This is consistent with recent study by Wan Nordin (2009) which found that family firm in Malaysia which their ownership is concentrated is less likely to withhold additional information.

Trading volume was found to be significantly and negatively related with non-reporting of social and environmental information. Based on the results, it shows that trading volume is an important element in determining the non-reporting of such information by Malaysian companies. Trading volume is one of the indicators of the liquidity of companies' share (Leuz, 1999). Companies with lower trading volume indicates that they are not followed by a large amount of investors which means that only limited investors will scrutinize additional information about these companies. Therefore, the benefits from information cost saving which will be received from reporting of voluntary

information is minimal compared to the cost incurred. Hence, low trading volume companies are more likely not to report their proprietary information about social and environmental activity in their annual reports.

The regression results shows that reliance on capital market is significantly influence the non-reporting of social and environmental information. However, its direction is contradicts with proprietary theory consideration which believes that companies which do not rely on capital market are more likely not to report this information. In rebuttal, the result of this study provides evidence that companies relying more on capital market to finance their activities are more unwilling to report their social and environmental activities comprehensively in the annual reports. Therefore, this result is not consistent with the finding of study by Cormier and Gordon (2001) and Cormier and Magnan (2003). One plausible explanation to the contradictory findings between this study and the proprietary costs theory are more likely to be due to the fact that corporate social responsibility is a new agenda to Malaysian business environment. Although reliance on capital market in Malaysia was on increasing trend (Thilainathan, 1999), however, Malaysian companies may believe that their financial market participants are not appreciating social and environmental activity as value added information. Moreover, they may assume that the reporting of this information especially environmental liabilities can only increase the companies' risk and in turn will reduce their future cash flow. Hence, in situation where their changes in debt to equity ratio are high, Malaysian companies are more likely to withhold that information.

As a conclusion, this study found that proprietary costs and information costs influence the non-reporting decision. This study provides evidence that profitability, size of company, leverage, capital intensity, concentrated ownership, trading volume and reliance on capital market have a significant relationship with non-reporting of social and environmental information. The disclosure of additional information involves costs such as collection, dissemination and proprietary costs. Therefore, when the benefit of disclosure is minimal, companies are reluctant to report social and environmental information comprehensively in the annual report. Hence, this study suggests that proprietary costs theory is appropriate in explaining the non-reporting of social and environmental information by Malaysian companies.

As this study employed various proxies, future study may extend the framework suggested in this study by using different dimensions of measurement for proprietary costs and information costs. Instead of using proxies, further research can develop a construct to measure these two costs.

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Table 1
Sample Characteristics

Types of Industry	Non-Reporting (Frequency)	Reporting (Frequency)	Total
Industrial Product	73	16	89
Consumer Product	38	11	49
Trading/Services	41	29	70
Plantation	12	14	26
Technology	4	0	4
Construction	17	9	26
Finance	13	13	26
Properties	52	19	71
Hotel	4	1	5
Infrastructure	1	5	6
Total	**252**	**116**	**368**

Table 2
Descriptive Statistics of Continuous Independent Variables

Variable	Non-Reporting (n=252)		Reporting (n=116)		T-Test	
	Mean	Std Dev	Mean	Std. Dev.	t-stat	p-value
ROA	0.01	0.08	0.06	0.07	-5.76	0.00***
CAPITAL	0.4	0.22	0.39	0.25	0.14	0.89
ASSET (RM million)	925	6421	9646.5	28695	-3.236	0.00***
LEVERAGE	0.60	4.18	0.72	1.01	-0.31	0.76
RISK	1.02	0.77	1.02	0.59	0.09	0.93
FOREIGN	5.53	9.67	11.11	14.49	-3.78	0.00***
CONCENT	43.75	18.44	55.99	15.70	-6.57	0.00***
VOLUME	0.36	0.61	0.23	0.33	2.50	-.01**

*** Significant at 1% or less
** Significant at 5% or less
* Significant at 10% or less

Table 3
Descriptive Statistic of Dichotomous Variable

Variable	Non-Reporting (n=252)	Reporting (n=116)	Ch^2	p-value
RELIANCE				
Reliance	73	31		
Non-Reliance	179	85	0.102	0.749

Table 4
Pearson Correlation Analysis

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) ROA	1								
(2) CAPITAL	-0.098	1							
(3) RISK	-0.354**	0.059	1						
(4) LNASSET	0.052	-0.086	0.099	1					
(5) CONCENT	0.213**	-0.024	-0.248**	0.119*	1				
(6) VOLUME	-0.234**	0.018	0.287**	-0.073	-0.362**	1			
(7) FOREIGN	0.146**	-0.033	0.048	0.226**	-0.046	-0.001	1		
(8) LEVERAGE	0.136**	-0.119*	-0.073	0.271**	0.025	0.079	-0.072	1	
(9) RELIANCE	-0.258**	0.028	0.145**	0.172**	-0.56	0.127*	-0.046	0.125*	1

** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (2-tailed)

Table 5
Logistic Regression Predicting Likelihood of Non-Reporting of Social and Environmental Activities

Variables	Pred. Sign	Coefficient	Standard Error
ROA	-	39.134	6.394
CAPITAL	-	-2.535	1.005
LNASSET	-	-3.696	0.503
LEVERAGE	+	0.523	0.083
RISK	-	-0.341	0.378
FOREIGN	-	0.022	0.018
CONCENT	+	-0.091	0.018
VOLUME	-	-0.843	0.503
RELIANCE	-	0.976	0.500
CONSTANT	?	58.141	7.786
χ^2		315.163***	
Degree of freedom		9	
Cox & Snell R^2			
Nagelkerke R^2		57.5%	
Mc Fadden Pseudo-R^2		80.8%	
		68.7%	
Classification Accuracy:			
Overall		90.8	
-Non Reporting		94.4	
-Reporting		82.8	
		368	
Sample Size		252	
-Non reporting		116	
-Reporting			

Notes:
*** Significant at 1% or less**Significant at 5% or less*Significant at 10% or less

ENVIRONMENTAL DISCLOSURE, CORPORATE CHARACTERISTICS, AND FIRM PERFORMANCE: EVIDENCE FROM THAILAND

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ABSTRACT

Environmental reporting has become more popular internationally for many years. It can be either qualitative or quantitative and can be provided to readers as an integral of an annual report or via separate report in other media such as website and company newsletters. In Thailand, environmental reporting has received considerable attention since 1992. There are some standards, acts or guidelines which involve environmental disclosure for companies in Thailand. However, environmental disclosure in Thailand is still mostly voluntary.

This study explores voluntary environmental disclosures in annual reports of firms listed on the Stock Exchange of Thailand. It employs univariate and multivariate analyses in examining the relationship between environmental disclosures by Thai listed firms in 2006 and corporate financial and characteristic variables.

Consistent with previous research findings, the results suggest significant positive relationship between the disclosure and firm size. This indicates that large firms in Thailand tend to have utilized environmental disclosure than do small firms even after controlling for their systematic risk. Moreover, after controlling for systematic risk, firms that are more efficient in utilizing their assets are more likely to disclose environmental matters in their annual reports. However, the results also suggest that disclosing firms with higher capital intensity or growth opportunity tend to have lower firm performance than non-disclosing firms with the similar characteristics.

I. INTRODUCTION

Environmental matters have received considerable attention in Thailand, perhaps mainly due to several major conflicts occurred in power-generating and gas pipeline projects (Connelly and Limpaphayom, 2004) and public concern about natural resources, especially energy. However, environmental reporting is mostly voluntary for companies in Thailand.

There are some standards, acts or guidelines which involve environmental disclosure of firms in Thailand (see Table 4)[403] but those mainly have limited requirements. For example, National Environment Quality Promotion and Maintenance Act B.E.2535 requires the Environmental Impact Assessment (EIA) to be done and reported by organizations whose projects or businesses have impacts on environment. However, the EIA report is required only upon requests for permission or renewal and is restricted to projects with types and sizes as specified by the Ministry, for example, those involving more than 160,000 square meters of land. Companies that conform to ISO 14001 Standard[404] for environmental management system should also document their environmental control procedures. United Nations Conference on Trade and Development (UNCTAD) issued a manual which give guidelines on environmental performance indicators in order to standardize the presentation and disclosure of corporate environmental performance but the guidelines have not been made compulsory in Thailand. Thai Accounting Standard No. 53 (TAS 53) on provisions, contingent liabilities and contingent assets requires firms to disclose their material contingent liabilities and provisions in their financial statements. This may apply if firms have environmental liabilities or contingencies.

[Insert Table 1 here]

Due to voluntary nature of the environmental disclosure, the research on the matter has been very limited in Asian countries, including Thailand (Connelly and Limpaphayom, 2004;

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[403] Drawing upon Gray et al (1995b).

[404] ISO 14001 is an internationally accepted specification for an EMS. It specifies requirements for establishing an environmental policy, determining environmental aspects and impacts of products/activities/services, planning environmental objectives and measurable targets (Capaccio Environmental Engineering, Inc, 2005)

Kuasirikun, 2005). This study intends to provide additional evidence on the environmental disclosure in Thailand by using listed companies as a sample. Although the first two mentioned act and standard require mandatory disclosures which could be used for the research, they are limited to companies under their scope. Moreover, environmental information disclosed in both cases mainly involves operational data which are not available to public. For the purpose of this research, the UNCTAD's and TAS 53's requirements are taken into account.

As there is currently no officially effective requirement for environmental disclosure for listed firms, environmental disclosures are scattered across various media, including annual report and separate environmental report. In this study, annual reports are employed since they are major reporting documents for listed companies in Thailand and available to general public.

The next section reviews some previous research primarily related to corporate environmental disclosure and financial performance and provide hypotheses. Section 3 provides information about methodology employed in this study, including specific details on sample and data analysis. Finally, Section 4 presents summary and analysis of the findings and compares the results to those of previous research in relevant areas. Results are then discussed and implications, limitations and recommendations for future study conclude the paper.

II. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Literature Review

Previous research reported that there are many factors correlated with environmental disclosure. As summarized in Table 2, there are two major categories of factors; firm characteristics and firm performance. In environmental disclosure literature, firm characteristics are used either to distinguish between disclosing and non-disclosing firms or as control variables. Ullmann (1985) noted that demands for increased social performance probably are influenced by the size and the industry of the company. As for firm performance, the view and

evidence are mixed with regards to whether environmental disclosure relates to superior firm performance.

[Insert Table 2 here]

<u>Firm Characteristics</u>

Previous studies have suggested that larger firms tend to provide more social responsibility activities and/or information than smaller companies, probably due to their market dominance (Eilbert and Parket, 1973) or high magnitude of political cost (Watts and Zimmerman, 1978). In other words, less or insufficient social responsibility actions may not only bring about loss of good public image but also lead to potential legal and regulatory problems (Anderson and Frankle, 1980). Trotman and Bradley (1981) found that firm size, represented by total assets and total sales, is positively associated with social responsibility disclosure. Spicer (1978) also reports that size is positively related to the pollution control of firms in the pulp and paper industry. In addition, size is evidenced to have significant intermediating effect on the relationship between financial and environmental performance (King and Lenox, 2001; Mathur and Mathur, 2000). However, several studies such as Russo and Fouts (1997) and Connelly and Limpaphayom (2004) report that sizes are not significant control variables for such relationship.

In Russo and Fouts' (1997) study, they investigate the moderating effect of industry growth rate on the relationship between environmental and financial performance. They argue that firms in high growth industries are more concerned with establishment of reputation and may use 'green' strategies to secure their competitive advantage. The results of their study indicate that for firms in high-growth industries, the relationship between environmental performance and profitability is relatively stronger than for firms in lower-growth industries. Such findings also apply to individual firm growth. That is, the relationship between environmental performance and profitability is relatively stronger for high-growth firms.

Most environmental disclosure literatures did not place specific consideration on the relationship between the disclosure and leverage/debt ratio. However, Ullmann (1985) suggest that in low profitability and high debt situation, firms would tend to place emphasis on economic over social matters. This implies the negative relationship between leverage/debt ratio and environmental disclosure.

Trotman and Bradley (1981) reasoned that management of firms with high systematic risk[405] may perceive social responsibility disclosure as a means of reducing the risk. They found that the betas of socially-disclosing companies are found on average to be higher than the betas of non-disclosing companies. However, consistent with Alexander and Buchholz (1978), the results of their study indicate no significant relation between systematic risk and the amount of social responsibility information disclosed.

Environmental disclosure relates to the industry or the market segment of the firms. This can be reasonably expected since business operations of some industries have higher environmental impacts than others. Consider, for instance, firms in manufacturing sectors would bring about much higher water and air pollution as compared to firms in low environmentally-impacted in service sectors. To account for industry differences, previous environmental research mainly limits their samples to high environmentally-impact industries (Spicer, 1978) or uses industries or market segments as control variable (Connelly and Limpaphayom, 2004). Ingram (1978), among others, found that the information content of social responsibility disclosure, including environmental, is conditional upon the market segment of the firm.

Apart from aforementioned corporate characteristics, some research also indicates that country of the disclosing organization, age of business, and capital intensity are related to social responsibility reporting (Gray et al, 1995a). There have also been attempts in examining the relationship of environmental disclosure and financial performance using some other control

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[405] Systematic risk (or non-diversifiable risk) can be defined as the risk of a security that is attributable to general market conditions. It is represented by a beta which is a measure of the responsiveness of a security's returns to movement in the return on the market portfolio. (Cuthbertson and Nitzsche, 2001)

variables including advertising intensity and asset turnover, but such control variables do not exhibit significant coefficients (Russo and Fouts, 1997; Connelly and Limpaphayom, 2004).

<u>Firm Performance</u>

There are two major opposing views on the relationship between environmental disclosure and firm performance. First, Porter and van der Linde (1995) argue that environmental regulations encourage innovations which can lead to improved efficiency of operations, for instance, by better utilization of materials in the manufacturing process. The Porter hypothesis, therefore, suggest the positive relationship between firm performance and corporate responsibility disclosure. On the other hand, other groups of researchers believe that activities which are not aimed towards profit maximization will adversely affect efficiency, especially in the short run (Simon et al, 1972; Connelly and Limpaphayom, 2004). For example, investments in environmental-friendly machine may influence short-term cash flows management and production efficiency of inexperienced labor. This contradictory view implies the negative association between firm performance and the disclosure.

The results of the studies on the directions of associations between firm performance and disclosure are also mixed (See Table 2). Such contradictory evidence may be contributed to their difference in definitions of financial variables (e.g. accounting versus market performance[406]), disclosure variables (e.g. environmental versus social reporting), periods, samples, or methodologies used. For example, Roberts (1992) uses lagged profits while the earlier studies which found no correlation employ profits of the same period (Abbott and Monsen, 1979; Cowen et al, 1987; Gray et al, 1995a).

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[406] Connelly and Limpaphayom (2004) contend that accounting measures represent the short-term performance of the firm while the market measures indicate the long-term performance as perceived by investors. Previous researchers mainly used profitability (e.g. returns on assets, returns on equity) as a proxy for accounting performance while market performance is represented by a variety of measures such as Tobin's Q, expected returns, price/earnings ratio. (See Ullmann, 1985; Connelly and Limpaphayom, 2004; Spicer, 1978)

Apart from positive and negative correlation, several previous research also suggest non-linear between social disclosures and firm performance. For example, Stanwick and Stanwick (2000) found that in their sample, firms with medium accounting performance had the highest level of environmental policies. Connelly and Limpaphayom (2004) provide evidence that medium level of disclosure is associated with the best market performance.

Hypothesis development

Previous literatures discussed above have suggested that environmental disclosure is related to both corporate characteristics and performance. Hypotheses are developed and tested to provide additional evidence to existing literatures.

Firstly, the simple, univariate relationship between environmental disclosure variable and corporate characteristics performance is investigated. Similar to Trotman and Bradley (1981), the first hypothesis tests whether there is a difference in each firm characteristics or performance variable between firms which disclose environmental information and those which do not. The first alternative hypothesis is therefore:

H1: The distribution of each corporate characteristic or performance variable of the environmentally disclosing and non-disclosing companies is different.

Selected corporate variables include firm size, growth rate, leverage, capital intensity, accounting performance and market performance[407].

Next, this study tests which corporate characteristics or performance variables, from the first hypothesis, best differentiate environmental disclosing from non-disclosing firms. The second alternate hypothesis is stated below.

H2: Corporate characteristics and performance variables can be used to differentiate environmentally disclosing from non-disclosing companies.

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[407] Variables are from the literature review as discussed earlier. We also examine capital intensity since it is the causal variable that relates to both industry and performance. As for industry and systematic risk, we intend to use them as control variables.

Lastly, following Connelly and Limpaphayom (2004), the relationship between environmental disclosure and corporate performance is specifically investigated. Firm characteristics are employed as control variables. The alternative hypothesis is as follow:

H3: There is a relationship between corporate performance and environmental disclosure, after controlling for corporate characteristics.

III. RESEARCH METHODOLOGIES

Population and Samples

The population covers all firms listed in the Stock Exchange of Thailand (SET) in the fiscal year 2006 which was the latest year for which annual reports were available. The samples for this study are firms which meet the following preliminary conditions:-

(a) The financial year ends in December[408].

(b) Annual report of the year 2006 must be available.

(c) Necessary accounting and market data items must be available.

(d) Financial firms are excluded.

(e) The companies are not in non-compliance or non-performing group during the period[409].

Furthermore, observations in the extreme 1% were removed. Those with negative or zero earnings per share or book value of equity would also cause trouble in calculating and/or interpreting ratios and were also removed.

Two samples are used in this research. The first sample (Sample A) includes all the firms that meet all of the above criteria. The second sample (Sample B) is a portfolio of matched-pair firms, primarily based upon firms' beta[410] and industry[411]. The above criteria result in the final

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[408] In order to minimize effects that may arise from time differences.
[409] Financial ratios of these companies are mostly extreme cases or outliers.
[410] Based upon Anderson and Frankle (1980) and Gonedes et al (1976), the use of equivalent systematic risk portfolios assists in controlling for other firm characteristics relevant to the valuation of the sample firms.
[411] Prior research indicates that corporate financial ratios vary systematically with industry (Livingston and

samples of 234 and 86 firms for Sample A and Sample B, respectively. Table 6 summarizes the research samples for this study.

[Insert Table 3 here]

Data Collection

Environmental disclosure is extracted from corporate annual reports which are major reporting documents in Thailand. Moreover, annual report disclosure levels are found to be positively correlated with the amount of disclosure provided via other media (Lang and Lundholm 1993). Accounting variables are obtained from annual reports. Market variables are obtained from Compustat Global database.

Definitions of Variables

Environmental disclosure definition list is established based upon UNCTAD's environmental reporting framework for the annual report (UNCTAD Secretariat, 1997) and the disclosure index summarized in Razeed et al's (2004) paper with some modifications[412]. Firms disclosing any of the information in Table 7, Panel A are considered environmental-disclosing firms in this research[413]. The definitions of financial variables used in this study are summarized in Panel B. Firm industry variables are based on the Stock Exchange of Thailand's industry classification as of 2006, namely agro and food industry (AGRO), consumer product (CONSUMP), industrial (INDUS), property and construction (PROPCON), resource (RESOURC), service (SERVICE) and technology (TECH). The industry variables are dummy variables, i.e. each industry variable is assigned value of 1 if a firm is in the specified industry and assigned value of 0 otherwise). For example, for a company in resource industry, the RESOURC dummy variable is assigned value of 1 while the rest of industry dummies are

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Henry, 1980). SET sector/industry classification is used to identify match-paired firms.
[412] The UNCTAD's manual on eco-efficiency indicators is used as general guideline.
[413] We did not use disclosure index because annual report is the only source employed in this study. Gamble et al (1995) found that the overall quality of the annual report's environmental disclosures was low. Less than 25 percent of environmental disclosures in their list were presented in the annual report.

assigned values of zero. Industry variables are mainly used as controlling variables. In the regressions, service industry is used as the reference category.

[Insert Table 4 here]

IV. EMPIRICAL RESULTS AND DISCUSSION

Table 5 shows descriptive statistics of the major variables used in this study.

[Insert Table 5 here]

Hypotheses' Results and Related Statistics

The first hypothesis tests the difference between environmentally disclosing and non-disclosing firms with regard to their characteristics and performance. The Wilcoxon test is employed to test the first hypothesis[414]. Table 6 presents a summary of the first hypothesis's results. Panel A illustrates the variable mean of environmentally disclosing versus non-disclosing firms and respective Wilcoxon statistics. Statistics includes those of pooled sample (Sample A) and beta-controlled sample (Sample B). Panel B further reports, based on the pooled sample, the summary results by industry.

[Insert Table 6 here]

Results from the pooled sample indicate that on average, the size of the disclosing company is larger than that of non-disclosing. This is in line with most previous studies that larger firms tend to disclose social responsibility issues, including environmental, than smaller firms (e.g. Trotman and Bradley, 1981). The remaining variables, for the pooled sample, are not found to be significantly associated with environmental disclosure. It is noteworthy, however, that on the industry basis, some variables do have significant relationship with the environmental disclosure. Consider, for example, the growth for the service firms for disclosing firms is relatively higher than the growth for those firms that are non-disclosing firms, consistent

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[414] Nonparametric statistics are used since the distributions of most financial variables are generally non-normal.

with previous research (Russo and Fouts, 1997). The net profit margin of disclosing firms is relatively higher than the net profit margin of non-disclosing firms in industrial sector, indicating that environmentally-conscious firms may be able to control cost better or they could charge higher for their products. In addition, the capital intensities of technology firms which disclose environmental information are higher than those of non-disclosing firms, but only marginally. The results also show that price earnings ratio of non-disclosing firms is relatively higher than price earnings ratio of disclosing firms. It is probable that non-disclosing companies may have relatively lower earnings per share (low profitability) which leads to higher price/earnings ratio.

With regard to the equivalent-risk sample (Sample B), it can be observed that the significant relationship between environmental disclosure and firm size still exists. The results, therefore, suggest evidence that even after controlling for systematic risk and industry, size does matter in environmental disclosure behaviours of firms in Thailand. In accordance with Spicer (1978) and Trotman and Bradley (1981), Thai firms which disclose environmental information typically are larger than those which do not disclose.

The second hypothesis studies whether firm characteristics and performance can be used to classify firms into environmentally-disclosing and non-disclosing firms. Before testing the hypothesis, the correlations among variables are analysed. The correlations presented in Table 7 are mostly consistent with the results of the first hypothesis (i.e., Table 6, Panel A). Before controlling for other variables, only firm size exhibit significant associations with disclosure. However, such significant correlation become a little weaker when industry and beta are controlled (Sample B). This may be partly because most disclosing companies belong to industries of which size is relatively larger.

[Insert Table 7 here]

The binary logistic regression is used to test whether all the factors together can be used to differentiate environmentally-disclosing and non-disclosing firms. Firm value is dropped from the regression due to its multicollinearity with other variables. Price/Earnings ratio is the only

2295

market measure included in the model. The estimated model for the second hypothesis is as follows.

P (DISCLOSE) = $1/(1+e^{-W})$ *….(Model 1)*

Where:

$W = a_0 + a_1\ SIZE + a_2\ PROFIT + a_3\ PER + a_4\ LEV + a_5\ GROWTH + a_6\ CAPINT + a_k\ INDUSTRY + e_t$

Presented in Table 8 are the results of the above equation. Return on assets (ROA) is used as a measure of profitability (PROFIT). ROA is then decomposed into net profit margin (NPM) and asset turnover (ATO) for further analysis. We also provide results of the industry dummies which are used as control variables for reference.

[Insert Table 8 here]

From Table 8, the model chi-square is significantly different from zero (p <.05) for Sample A, but not Sample B, possibly because of small sample. The results from the logistic regressions are similar to those from the first hypothesis and the correlation analyses. Size is evidenced to be the best variable that can distinguish firms with environmental disclosure from those without. The results for Sample B suggest that after controlling for systematic risk, asset turnover ratio seems to better able to discriminate disclosing and non-disclosing firms. The positive coefficient suggests that firms with higher asset turnover are more likely to disclose environmental information in their annual reports. However, the rest of the explanatory variables do not exhibit significant coefficients. The significance of constant terms in both samples suggest that there might be any other possible explanatory variables which are omitted from the analysis.

The third hypothesis investigates the relationship between environmental disclosure and corporate performance, measured by market variables and accounting variables. Corporate characteristics are used as moderating variables[415]. To test this hypothesis, we examine the

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[415] According to Capon, Farley and Hoenig (1990), seven causal variables most prevalent in previous research on performance were industry concentration, firm growth rate, firm size, capital intensity,

direct relationship between the disclosure variable and corporate performance, as well as the indirect relationship of the disclosure with corporate performance, via the interaction terms of the disclosure and corporate characteristics. The following equations are estimated for this hypothesis.

$Y = a_0 + a_1\ DISCLOSE + a_2\ SIZE + a_3\ PER + a_4\ LEV + a_5 GROWTH + a_6 CAPINT + a_k\ INDUSTRY + e_t$

….(Model 2)

$Y = a_0 + a_1\ DISCLOSE + a_2\ SIZE + a_3\ PER + a_4\ LEV + a_5\ GROWTH + a_6\ CAPINT$

$+ a_7\ DISCLOSE{*}SIZE + a_8\ DISCLOSE{*}PER + a_9\ DISCLOSE{*}LEV$

$+ a_{10}\ DISCLOSE{*}GROWTH + a_{11}\ DISCLOSE{*}CAPINT + a_k\ INDUSTRY + e_t$ *….(Model 3)*

Where Y = Market value of equity (VALUE) or profitability (PROFIT).

Table 9 presents the results of the above equations. The results of Model 2 and Model 3 are illustrated in Panel A and Panel B, respectively.

[Insert Table 9 here]

As can be seen from the coefficient of the disclosure variable in both panels, we are unable to reject the null hypothesis that environmental disclosure is unrelated to company performance, after controlling for corporate characteristics for the direct association. However in Panel B, the interaction terms between disclosure and capital intensity (DISCLOSE*CAPINT) has significantly negative coefficient for Sample A. This indicates that, for firms with similar capital intensity level, those disclosing environmental information would, on average, have lower market and accounting performance or stated differently, for the disclosing firms, higher capital intensity is associated with inferior firm performance. For Model 3.1 of which the dependent variable is market value of equity, this could mean that high-capital intensity firms that disclose environmental matters are, on average, penalized by the stock market. This could be because these firms have less profitability, as suggested by Model 3.2 and 3.3 which may result from the

research and development intensity, advertising intensity, and market share. However, we encountered lots of missing data for the last three aforementioned variables so they are not included.

higher depreciation of their assets. There is also evidence that the interaction terms of the disclosure and price/earnings ratio (DISCLOSE*PER), which proxies for growth opportunity, are negatively related to profitability but the results are weaker.

Discussion, Implication and Limitations

Previous research indicates that environmental disclosure is related to corporate characteristics and performance. This study is built upon prior literatures to examine the relationship between environmental reporting and firm size, profitability, growth, debt ratio, price/earnings ratio, capital intensity, and firm value of companies listed on the Stock Exchange of Thailand. Three hypotheses are formed and tested and the results as summarized in Table 10 are obtained.

[Insert Table 10 here]

Consistent results on strong relationship between environmental disclosure and firm size are obtained from testing Hypothesis 1 and 2. This indicates that, as previous research suggests, large firms in Thailand tend to have utilized environmental disclosure as a tool for retaining good corporate image in the public more than do small firms, even after controlling for systematic risk. There is also some evidence that, after controlling for systematic risk, firms that better utilize their assets (higher asset turnover) are more likely to include environmental disclosure in their annual reports. However, the tests on the relationship between environmental disclosure and corporate performance suggest that the disclosing firms with higher capital intensity or higher growth opportunity tend to have inferior corporate performance.

Several limitations should be noted for this study. The first limitation arises from data collection method because annual report is the only one source used. However, there are many other possible, perhaps better, mediums for environmental disclosure such as separate environmental reports, press release, public relations activities and product labels. Another limitation is about the sample used. This study does not involve all listed companies in Thailand due to unavailability of some specific data items and cover only a single period of 2006. Had

disclosure index or different sample been employed, the results might have been different. Inclusion of other control variables and non-linear tests, as suggested in prior research and different variable specification would have been useful to test robustness of results.

This research, to some extent, not only provides additional evidence on environmental disclosure of Thai listed companies but also highlights the environmental responsibility efforts of large companies, although at the expense of their financial performance.

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Table 4 *Overview of important regulations, standards, guidelines which affect environmental disclosure in Thailand*

Regulations/Standards /Guidelines	Area of disclosure	Information to be disclosed	Where to be disclosed	When	Year
National Environment Quality Promotion and Maintenance Act B.E.2535 (by Department of Environmental Quality Promotion, Ministry of Natural Resources and Environment, Thailand)	Environmental Impact Assessment (EIA)	Impact of project or business on environment (project types and sizes as specified by the Ministry)	Report to National Environmental Committee	Upon requests for permission and renewal	1992 (B.E.2535)
ISO 14001 by International Organization for Standardization	Environmental Management System (EMS)	Environmental control procedures which cover controls over exceptions, monitoring and compliance reviews	Report to International Organization for Standardization	Upon request for certification and reassessment every 3 years	1996 (latest revision in 2004)
UNCTAD's manual for the preparers and users of eco-efficiency indicators	Environmental performance	Environmental performance indicators on water and energy use, global warming contribution, ozone depleting substances and waste	Supplementary to financial statement or as a separate report	Annual	2004 but not formally activated in Thailand
Thai Accounting Standard No. 53 Provisions, Contingent Liabilities and Contingent Assets (equivalent to International Accounting Standard No. 37)	Environmental contingent liabilities and provisions	Liabilities which are reasonably likely and material	Financial statement	As of balance sheet date	2005

Table 10 *Sample of Factors Correlating to Environmental Disclosure*

Factors	Direction of Associations	Sample of References
Firm Characteristics		
Firm Size	+	Spicer (1978)*, Trotman and Bradley (1981)
Growth Rate	+	Russo and Fouts (1997)*
Leverage/Debt Ratio	-	Ullmann (1985)
Systematic Risk	-	Spicer (1978)
Industry/Market Segment	N/A	Spicer (1978)*, Ingram (1978), Connelly and Limpaphayom (2004)
Firm Performance		
Accounting Performance	+	Spicer (1978), Ullmann (1985)
	U-Shaped	Stanwick and Stanwick (2000)
	0	Abbot and Monsen (1979), Cowen et al (1987), Connelly and Limpaphayom (2004)
Market Performance	+	Spicer (1978), Anderson and Frankle (1980), Clarkson et al (2004)
	-	Mathur and Mathur (2000), King and Lenox (2001)
	U-Shaped	Connelly and Limpaphayom (2004)

Note: * The study investigates the relationship of the factor and environmental performance.

Table 6 *Research Samples*

	Population*	Sample A: Pooled	Sample B: Controlling for Beta and Industry**
Number of Companies – Total	**489(100%)**	**234 (48%)**	**86 (18%)**
Agro and Food Industry	*43 (9%)*	*28 (12%)*	*10 (12%)*
Consumer Products	*43 (9%)*	*24 (10%)*	*6 (7%)*
Financial	*67 (14%)*	*0 (0%)*	*0 (0%)*
Industrial	*70 (14%)*	*44 (19%)*	*20 (23%)*
Property and Construction	*96 (20%)*	*49 (21%)*	*22 (25%)*
Resources	*21 (4%)*	*15 (6%)*	*4 (5%)*
Services	*86 (18%)*	*53 (23%)*	*14 (16%)*
Technology	*36 (7%)*	*21 (9%)*	*10 (12%)*
Non-compliance and non-performing	*27 (5%)*	*0 (0%)*	*0 (0%)*
Market Capitalization (Million Baht)	**5,078,705**	**1,914,785(38%)**	**494,632(10%)**
Total Assets (Million Baht)	**13,074,844**	**2,242,171(17%)**	**693,133 (5%)**
Total Book Value of Equity (Million Baht)	**3,100,112**	**1,236,567(40%)**	**384,940(12%)**
Total Sales (Million Baht)	**5,574,564**	**2,258,657(41%)**	**573,105(10%)**
Total Net Income (Million Baht)	**467,369**	**165,176(35%)**	**45,639(10%)**

Notes to the table:
* Source: the Stock Exchange of Thailand
** Beta values which are employed to construct an equivalent-risk portfolio is the average of the weekly beta obtained from Bangkokbiznews daily newspaper in Thailand.

Table 7 *Definitions of Variables*

Panel A: **Scope of Definitions of Environmental Disclosure Variable**

Environmental-related information
Non-financial
Environmental awareness
Environmental goals or policies
Environmental stakeholders
Internal environmental divisions or department
Environmental Management System (EMS)
Compliance to the environmental regulations
Environmental audit
Environmental activities and progress
Environmental training provided to staff
Environmental awards
Environmental performance
Financial
Environmental investments or donations
Benefits derived from environmental management
Costs associated with environmental activities
Environmental fines and penalty
Environmental liabilities and contingencies
Environmental accounting policies

Panel B: **Definitions of Financial Variables**

Variables	Definitions
Accounting Measures	
Size (SIZE)	Log of book value of total assets as of 31/12/2006
Return on Assets (ROA)	Net income divided by average total assets
Return on Equity (ROE)	Net income divided by average shareholders' equity
Growth (GROWTH)	Percentage change in sales from 2005 to 2006
Leverage (LEV)	Total liabilities divided by total assets
Net Profit Margin (NPM)	Net income divided by sales
Asset Turnover (ATO)	Sales divided by average total assets
Capital Intensity (CAPINT)	Average net property, plant and equipment divided by average total assets
Market Measures	
Value of Equity (VALUE)	Log of market value of equity as of 31/12/2006 deflated by SIZE
Price/Earning Ratio (PER)	Share price as of 31/12/2006 divided by earnings per share for the year 2006

Table 5 *Descriptive Statistics of Major Variables*

Variables	Sample A (N = 234)					Sample B (N = 86)				
	Mean	S.D.	Min.	Median	Max.	Mean	S.D.	Min.	Median	Max.
DISCLOSE	0.654	0.477	0.000	1.000	1.000	0.500	0.503	0	0.500	1.000
SIZE	21.987	1.305	19.513	21.665	25.623	21.976	1.189	20.174	21.614	25.163
ROA	0.078	0.055	0.001	0.065	0.302	0.075	0.055	0.001	0.064	0.280
ROE	0.139	0.099	0.002	0.121	0.741	0.140	0.097	0.002	0.118	0.430
GROWTH	0.185	0.659	-0.876	0.102	8.917	0.156	0.325	-0.513	0.098	1.546
LEV	0.401	0.190	0.040	0.424	0.814	0.432	0.193	0.040	0.454	0.814
NPM	0.098	0.087	0.002	0.073	0.468	0.087	0.079	0.003	0.064	0.410
ATO	1.103	0.724	0.114	0.967	4.173	1.185	0.803	0.114	1.009	3.914
CAPINT	0.377	0.231	0.006	0.349	0.935	0.342	0.221	0.006	0.292	0.886
VALUE	0.982	0.030	0.910	0.985	1.060	0.977	0.032	0.910	0.976	1.047
PER	17.857	29.371	2.282	10.502	290.000	17.662	27.340	2.282	9.545	183.000

DISCLOSE is an indicator variable with a value of 1 if a company has environmental disclosures in its annual report, and 0 otherwise. SIZE is the log of book value of total assets as of 31/12/2006. ROA is net income divided by average total assets. ROE is net income divided by average shareholders' equity. GROWTH is the percentage change in sales from 2005 to 2006. LEV is total liabilities divided by total assets. NPM is net income divided by sales. ATO is sales divided by average total assets. CAPINT is average net property, plant and equipment divided by average total assets. VALUE is the log of market value of equity as of 31/12/2006 deflated by size. PER is share price as of 31/12/2006 divided by earnings per share for the year 2006.

Table 6 *Summary of Results for Hypothesis I*

PANEL A: OVERALL RESULTS									
Variable	**Expectation**	**Sample A (N = 234)**				**Sample B (N = 86)**			
		Median for Disclosing firms	**Median for Non-disclosing firms**	**Wilcoxon P-Value**	**Results**	**Median for Disclosing firms**	**Median for Non-disclosing firms**	**Wilcoxon P-Value**	**Results**
SIZE	*D > ND*	21.993	21.395	0.002	D > ND***	22.058	21.530	0.015	D > ND**
ROA	*?*	0.065	0.065	0.472	D > ND	0.064	0.076	0.528	ND > D
ROE	*?*	0.121	0.119	0.599	D > ND	0.111	0.119	0.717	ND > D
GROWTH	*D > ND*	0.113	0.067	0.122	D > ND	0.113	0.089	0.412	D > ND
LEV	*ND > D*	0.416	0.434	0.735	ND > D	0.451	0.457	0.802	ND > D
NPM	*?*	0.075	0.066	0.364	D > ND	0.069	0.062	0.592	D > ND
ATO	*?*	0.924	0.989	0.918	ND > D	0.969	1.025	0.986	ND > D
CAPINT	*?*	0.365	0.328	0.379	D > ND	0.343	0.290	0.437	D > ND
VALUE	*?*	0.985	0.982	0.683	D > ND	0.977	0.973	0.635	D > ND
PER	*?*	10.334	11.400	0.660	ND > D	9.333	9.758	0.685	ND > D
n		**153**	**81**			**43**	**43**		

Note: D = Disclosing firms, ND = Non-disclosing firms

DISCLOSE is an indicator variable with a value of 1 if a company has environmental disclosures in its annual report, and 0 otherwise. SIZE is the log of book value of total assets as of 31/12/2006. ROA is net income divided by average total assets. ROE is net income divided by average shareholders' equity. GROWTH is the percentage change in sales from 2005 to 2006. LEV is total liabilities divided by total assets. NPM is net income divided by sales. ATO is sales divided by average total assets. CAPINT is average net property, plant and equipment divided by average total assets. VALUE is the log of market value of equity as of 31/12/2006 deflated by size. PER is share price as of 31/12/2006 divided by earnings per share for the year 2006.

*, **, *** Significant at the 10 percent, 5 percent and 1 percent levels two-tailed, respectively

Table 6 *(Continued)*

PANEL B: RESULTS BY INDUSTRY									
Variable	*Expectation*	Summary Results for Median and Wilcoxon P-Value by Industry							
		OVERALL	AGRO	CONSUMP	INDUS	PROPCON	RESOURC	SERVICE	TECH
SIZE	*D > ND*	**D > ND*****	D > ND	D > ND	**D > ND***	D > ND	**D > ND***	ND > D	D > ND
ROA	*?*	D > ND	D > ND	D > ND	D > ND	D > ND	D > ND	ND > D	ND > D
ROE	*?*	D > ND	ND > D	D > ND	D > ND	D > ND	D > ND	ND > D	D > ND
GROWTH	*D > ND*	D > ND	D > ND	ND > D	ND > D	ND > D	D > ND	**D > ND****	D > ND
LEV	*ND > D*	ND > D	D > ND	ND > D	ND > D	D > ND	D > ND	D > ND	D > ND
NPM	*?*	D > ND	D > ND	D > ND	**D > ND ****	D > ND	D > ND	ND > D	D > ND
ATO	*?*	ND > D	ND > D	D > ND	ND > D	ND > D	D > ND	D > ND	D > ND
CAPINT	*?*	D > ND	ND > D	ND > D	D > ND	ND > D	ND > D	D > ND	**D > ND***
VALUE	*?*	D > ND	ND > D	D > ND	ND > D	D > ND	ND > D	ND > D	ND > D
PER	*?*	ND > D	D > ND	D > ND	**ND > D***	D > ND	ND > D	D > ND	ND > D
n (D, ND)		(153,81)	(20,8)	(19,5)	(26,18)	(34,15)	(13,2)	(29,24)	(12,9)
Ratio(D, ND)		(65%,35%)	(71%,29%)	(79%,21%)	(59%,41%)	(69%,31%)	(87%,13%)	(55%,45%)	(57%,43%)

Note: D = Disclosing firms, ND = Non-disclosing firms
DISCLOSE is an indicator variable with a value of 1 if a company has environmental disclosures in its annual report, and 0 otherwise. SIZE is the log of book value of total assets as of 31/12/2006. ROA is net income divided by average total assets. ROE is net income divided by average shareholders' equity. GROWTH is the percentage change in sales from 2005 to 2006. LEV is total liabilities divided by total assets. NPM is net income divided by sales. ATO is sales divided by average total assets. CAPINT is average net property, plant and equipment divided by average total assets. VALUE is the log of market value of equity as of 31/12/2006 deflated by size. PER is share price as of 31/12/2006 divided by earnings per share for the year 2006.

INDUSTRY: AGRO = agro and food industry, CONSUMP = consumer product, INDUS = industrial, PROPCON = property and construction, RESOURC = resource, SERVICE = service, TECH = technology

*, **, *** Significant at the 10 percent, 5 percent and 1 percent levels two-tailed, respectively

Table 7 *Spearman Rank Correlations Matrices*

SAMPLE A (N = 234)									
	DISCLOSE	VALUE	SIZE	ROA	ROE	PER	LEV	GROWTH	NPM	ATO
DISCLOSE	1.000									
VALUE	.027	1.000								
SIZE	.204***	.044	1.000							
ROA	.047	.624***	-.025	1.000						
ROE	.035	.517***	.112*	.874***	1.000					
PER	-.029	.270***	-.015	-.454***	-.461***	1.000				
LEV	.022	-.248***	.298***	-.283***	.153**	.044	1.000			
GROWTH	.101	.109	.064	.138**	.207***	.017	.185***	1.000		
NPM	.060	.468***	.174***	.671***	.536***	-.341***	-.291***	-.013	1.000	
ATO	-.007	.051	-.227***	.177***	.234***	-.096	.096	.215***	-.544***	1.000
CAPINT	.058	.108	.098	.056	.086	.022	.006	.013	.153**	-.128*

SAMPLE B (N = 86)									
	DISCLOSE	VALUE	SIZE	ROA	ROE	PER	LEV	GROWTH	NPM	ATO
DISCLOSE	1.000									
VALUE	.052	1.000								
SIZE	.266**	- .118	1.000							
ROA	.069	.628***	-.140	1.000						
ROE	.040	.451***	-.070	.873***	1.000					
PER	.045	.314***	-.082	-.387***	-.456***	1.000				
LEV	.028	-.425***	.222**	-.306***	.112	-.062	1.000			
GROWTH	.089	-.066	.018	-.167	-.094	.228**	.228**	1.000		
NPM	.059	.484***	.120	.652***	.473***	-.331***	-.384***	-.323***	1.000	
ATO	.002	-.016	-.272**	.193*	.289***	-.068	.182*	.307***	-.543***	1.000
CAPINT	.085	.126	.086	.192	.170	-.059	-.073	-.095	-.202*	-.016

DISCLOSE is an indicator variable with a value of 1 if a company has environmental disclosures in its annual report, and 0 otherwise. SIZE is the log of book value of total assets as of 31/12/2006. ROA is net income divided by average total assets. ROE is net income divided by average shareholders' equity. GROWTH is the percentage change in sales from 2005 to 2006. LEV is total liabilities divided by total assets. NPM is net income divided by sales. ATO is sales divided by average total assets. CAPINT is average net property, plant and equipment divided by average total assets. VALUE is the log of market value of equity as of 31/12/2006 deflated by size. PER is share price as of 31/12/2006 divided by earnings per share for the year 2006.   *, **, *** Significant at the 10 percent, 5 percent and 1 percent levels, respectively

Table 8 *Logistic Regression Results for Hypothesis II*

P (DISCLOSE) = $1 / (1+e^{-W})$

Where: W = $a_0 + a_1$ SIZE $+ a_2$ PROFIT $+ a_3$ PER $+ a_4$ LEV $+ a_5$
GROWTH $+ a_6$ CAPINT $+ a_k$ INDUSTRY $+ e_t$

Explanatory Variables	Predicted Sign	Sample A		Sample B	
		ROA	ROA Breakdown	ROA	ROA Breakdown
Intercept		-8.323***	-9.299***	-13.359***	-15.887***
		(8.48)	(9.65)	(7.50)	(9.27)
SIZE	+	0.375***	0.404***	0.582***	0.664***
		(8.02)	(8.46)	(6.93)	(7.91)
ROA	?	0.856		5.111	
		(0.08)		(0.93)	
NPM	?		0.629		3.417
			(0.08)		(0.66)
ATO	?		0.338		0.759**
			(1.67)		(3.98)
PER	?	-0.008	-0.007	0.003	0.006
		(2.19)	(1.96)	(0.07)	(0.41)
LEV	-	-0.300	-0.660	0.207	-0.417
		(0.12)	(0.54)	(0.02)	(0.09)
GROWTH	+	0.009	-0.017	-0.093	-0.268
		(0.00)	(0.01)	(0.02)	(0.12)
CAPINT	?	0.910	1.189	0.211	0.687
		(1.43)	(2.32)	(0.04)	(0.39)
INDUSTRY dummies					
AGRO	?	0.828	0.675		
		(2.57)	(1.54)		
CONSUMP	?	1.521**	1.535**		
		(6.24)	(6.10)		
INDUS	?	0.413	0.411		
		(0.87)	(0.82)		
PROPCON	?	0.974*	1.126**		
		(3.72)	(4.65)		
RESOURC	?	1.422*	1.399		
		(2.71)	(2.59)		
TECH	?	0.307	0.234		
		(0.25)	(0.15)		
N		234	234	86	86
Model Chi-square		24.871**	26.568**	9.623	13.110*
2 Log Likelihood		277.005	275.308	109.598	106.112
c		0.684	0.691	0.654	0.691

DISCLOSE is an indicator variable with a value of 1 if a company has environmental disclosures in its annual report, and 0 otherwise. SIZE is the log of book value of total assets as of 31/12/2006. ROA is net income divided by average total assets. ROE is net income divided by average shareholders' equity. GROWTH is the percentage change in sales from 2005 to 2006. LEV is total liabilities divided by total assets. NPM is net income divided by sales. ATO is sales divided by average total assets. CAPINT is average net property, plant and equipment divided by average total assets. PER is share price as of 31/12/2006 divided by earnings per share for the year 2006. INDUSTRY: AGRO = agro and food industry, CONSUMP = consumer product, INDUS = industrial, PROPCON = property and construction, RESOURC = resource, SERVICE = service, TECH = technology. Service industry is used as a reference group.

Numbers in parentheses are Wald statistics (a square of z-statistics which has a chi-square distribution)

*, **, *** Significant at the 10 percent, 5 percent and 1 percent levels, respectively

Table 9 *Multiple Regression Results for Hypothesis III*

Panel A: Y $= a_0 + a_1$ DISCLOSE $+a_2$ SIZE $+a_3$ PER $+a_4$ LEV $+a_5$ GROWTH $+a_6$

CAPINT

$+ a_k$ INDUSTRY $+ e_t$

Explanatory Variables *(Predicted Sign)*	Model 2.1 Y= VALUE		Model 2.2 Y=LN(ROA)		Model 2.3 Y= LN(ROE)	
	Sample A	Sample B	Sample A	Sample B	Sample A	Sample B
Intercept	0.981***	1.039***	-2.534***	-0.573	-2.444***	-0.397
	(30.43)	(17.25)	(-3.02)	(-0.39)	(-2.86)	(-0.27)
DISCLOSE (+/-)	0.003	0.004	0.023	0.070	0.010	0.065
	(0.74)	(0.67)	(0.23)	(0.44)	(0.10)	(0.40)
SIZE (+)	0.001	-0.002	0.019	-0.069	0.009	-0.085
	(0.81)	(-0.61)	(0.48)	(-1.00)	(0.21)	(-1.21)
PER (+/-)	0.000	0.000	-0.018***	-0.022***	-0.018***	-0.022***
	(1.27)	(0.38)	(-11.16)	(-7.68)	(-11.17)	(-7.63)
LEV (+/-)	-0.053***	-0.076***	-1.296***	-1.520***	0.546**	0.430
	(-5.33)	(-4.58)	(-5.00)	(-3.78)	(2.07)	(1.04)
GROWTH (+)	0.001	-0.011	0.023	-0.362	0.015	-0.389*
	(0.41)	(-1.14)	(0.32)	(-1.52)	(0.21)	(-1.59)
CAPINT (+)	0.010	0.020	0.436*	0.599*	0.461*	0.621*
	(1.13)	(1.39)	(1.87)	(1.71)	(1.94)	(1.73)
Industry dummies	Yes	No	Yes	No	Yes	No
N	234	86	234	86	234	86
F-ratio	5.98***	4.75**	14.56***	15.09***	12.66***	12.76***
Adj. R^2	.204	.209	.411	.499	.375	.454

DISCLOSE is an indicator variable with a value of 1 if a company has environmental disclosures in its annual report, and 0 otherwise. SIZE is the log of book value of total assets as of 31/12/2006. ROA is net income divided by average total assets. ROE is net income divided by average shareholders' equity. ROA and ROE are transformed to remedy for heteroscedasticity. GROWTH is the percentage change in sales from 2005 to 2006. LEV is total liabilities divided by total assets. NPM is net income divided by sales. ATO is sales divided by average total assets. CAPINT is average net property, plant and equipment divided by average total assets. VALUE is

the log of market value of equity as of 31/12/2006 deflated by size. PER is share price as of 31/12/2006 divided by earnings per share for the year 2006. As Badrinath and Kini (1994) suggest that in a study of market reaction, control for size and E/P should make for a cleaner study, PER is retained in Model 2.1 despite its market-measure property.

Numbers in parentheses are t-statistics.

*, **, *** Significant at the 10 percent, 5 percent and 1 percent levels, respectively

Table 9 *(Continued)*

Panel B: $Y = a_0 + a_1$ DISCLOSE $+ a_2$ SIZE $+ a_3$ PER $+ a_4$ LEV $+ a_5$ GROWTH $+ a_6$ CAPINT

$+ a_7$ DISCLOSE*SIZE $+ a_8$ DISCLOSE*PER $+ a_9$ DISCLOSE*LEV

$+ a_{10}$ DISCLOSE*GROWTH $+ a_{11}$ DISCLOSE*CAPINT $+ a_k$ INDUSTRY

$+ e_t$

Explanatory Variables (Predicted Sign)	Model 3.1 Y= VALUE		Model 3.2 Y=LN(ROA)		Model 3.3 Y= LN(ROE)	
	Sample A	Sample B	Sample A	Sample B	Sample A	Sample B
Intercept	1.048***	1.068***	-1.358	1.237	-1.360	2.046
	(17.02)	(9.71)	(-0.85)	(0.46)	(-0.84)	(0.76)
DISCLOSE	-0.077	-0.034	-1.167	-2.324	-1.024	-3.207
(+/-)	(-1.07)	(-0.26)	(-0.63)	(-0.72)	(-0.54)	(-0.97)
SIZE	-0.002	-0.004	-0.054	-0.171	-0.062	-0.222
(+)	(-0.88)	(-0.72)	(-0.70)	(-1.35)	(-0.80)	(-1.73)
PER	0.000	0.000	-0.016***	-0.019***	-0.016***	-0.018***
(+/-)	(0.96)	(1.12)	(-8.00)	(-4.13)	(-8.07)	(-4.01)
LEV	-0.031*	-0.058**	-0.936**	-0.992*	0.922**	1.131*
(+/-)	(-1.90)	(-2.30)	(-2.19)	(-1.63)	(2.12)	(1.83)
GROWTH	-0.002	-0.015	-0.096	-0.396	-0.101	-0.445
(+)	(-0.30)	(-1.34)	(-0.53)	(-1.43)	(-0.55)	(-1.58)
CAPINT	0.036**	0.037	1.146***	1.017*	1.258***	1.115**
(+)	(2.39)	(1.66)	(2.93)	(1.90)	(3.17)	(2.05)
DISCLOSE*SIZE	0.005	0.003	0.084	0.143	0.080	0.192
(+/-)	(1.40)	(0.48)	(0.95)	(0.94)	(0.88)	(1.25)
DISCLOSE*PER	-0.000	-0.000	-0.006**	-0.006	-0.007*	-0.007
(+/-)	(-0.05)	(-1.13)	(-1.93)	(-0.98)	(-1.92)	(-1.13)
DISCLOSE*LEV	-0.031	-0.027	-0.366	-0.761	-0.387	-1.051
(+/-)	(-1.50)	(-0.77)	(-0.68)	(-0.89)	(-0.71)	(-1.21)
DISCLOSE*GROWTH	0.002	0.006	0.098	-0.198	0.092	-0.146
(+/-)	(0.34)	(0.21)	(0.49)	(-0.30)	(0.46)	(-0.22)
DISCLOSE*CAPINT	-0.035**	-0.032	-1.055**	-0.807	-1.184***	-0.949
(+/-)	(-2.06)	(-1.09)	(-2.38)	(-1.12)	(-2.63)	(-1.30)
Industry dummies	Yes	No	Yes	No	Yes	No
N	234	86	234	86	234	86
F-ratio	4.64***	2.76***	11.11***	8.35***	9.85***	7.38***
R^2	.268	.291	.466	.554	.437	.523

DISCLOSE is an indicator variable with a value of 1 if a company has environmental disclosures

in its annual report, and 0 otherwise. SIZE is the log of book value of total assets as of

31/12/2006. ROA is net income divided by average total assets. ROE is net income divided by

average shareholders' equity. ROA and ROE are transformed to remedy for heteroscedasticity.

GROWTH is the percentage change in sales from 2005 to 2006. LEV is total liabilities divided by

total assets. NPM is net income divided by sales. ATO is sales divided by average total assets.

CAPINT is average net property, plant and equipment divided by average total assets. VALUE is

the log of market value of equity as of 31/12/2006 deflated by size. PER is share price as of

31/12/2006 divided by earnings per share for the year 2006. As Badrinath and Kini (1994)

suggest that in a study of market reaction, control for size and E/P should make for a cleaner

study, PER is retained in Model 2.1 despite its market-measure property. The rest of the

variables are the interaction terms between DISCLOSE and the corresponding independent

variables. Numbers in parentheses are t-statistics.

*, **, *** Significant at the 10 percent, 5 percent and 1 percent levels, respectively

Table 10 *Summary of Hypothesis Results*

Hypothesis	Disclosure Variable	Corporate Variable Being Tested	Significant Controlled Factor	Results on the relationship with the disclosure
H1 (Univariate Test)				
Sample A	Environmental Disclosure	VALUE, SIZE, PROFIT, PER, LEV, GROWTH, CAPINT	N/A	SIZE (+ at 1% or 5% level)
Sample B	Environmental Disclosure	VALUE, SIZE, PROFIT, PER, LEV, GROWTH, CAPINT	Beta, Industry	SIZE (+ at 5% level)
H2: Multivariate Test				
Sample A	Environmental Disclosure	SIZE, ROA [NPM, ATO], PER, LEV, GROWTH, CAPINT, Industry	N/A	• SIZE (+ at 1% level), • CONSUMP (+ at 5% level), • PROPCON (+ at 5% or 10% level) • RESOURC (+ at 10% level)
Sample B	Environmental Disclosure	SIZE, ROA [NPM, ATO], PER, LEV, GROWTH, CAPINT	Beta, Industry	• SIZE (+ at 1% level), • ATO (+ at 5% level)
H3: Multivariate Test				
Sample A	Environmental Disclosure	VALUE, ROA, ROE	SIZE, PER, LEV, GROWTH, CAPINT, Industry	• No direct relationship with VALUE, ROA or ROE • Interaction with PER on ROA, ROE (- at 5% or 10% level) • Interaction with CAPINT on VALUE, ROA, ROE (- at 1% 5% level)
Sample B	Environmental Disclosure	VALUE, ROA, ROE	SIZE, PER, LEV, GROWTH, CAPINT, Beta, Industry	No direct relationship with VALUE, ROA or ROE

SIZE is the log of book value of total assets as of 31/12/2006. ROA is net income divided by average total assets. ROE is net income divided by average shareholders' equity. GROWTH is the percentage change in sales from 2005 to 2006. LEV is total liabilities divided by total assets. NPM is net income divided by sales. ATO is sales divided by average total assets. CAPINT is average net property, plant and equipment

divided by average total assets. VALUE is the log of market value of equity as of 31/12/2006 deflated by size. PER is share price as of 31/12/2006 divided by earnings per share for the year 2006. INDUSTRY: AGRO = agro and food industry, CONSUMP = consumer product, INDUS = industrial, PROPCON = property and construction, RESOURC = resource, SERVICE = service, TECH = technology. Service industry is used as a reference group.

7.4 No session

7.5 International Accounting

PRESENT VALUE AND HISTORICAL COST ACCOUNTING: TOWARD THE GLOBAL CONVERGENCE AND RECONCILIATION PROCESS IN JAPAN

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Abstract

In recent years, Japan and Western countries have experienced the storm of present value (discounted cash flow) through the convergence and/or adoption process of International Accounting Standards (International Financial Reporting Standards). This paper aims to clarify the transition process and facing issues of recent accounting practice through various discussions on the present value, especially from the standpoint of income measurement.

This paper has three main contributions. First, it divides the present value into four forms so as to visualizing the features of contemporary accounting. Second, it reveals the meanings of recent change from flow-and-internal oriented (historical cost) accounting toward stock-and-external oriented (fair value) accounting. Finally, we propose adequate applications of fair value and present value in the context of global convergence of accounting standards. It will serve to improve mutual understanding between countries which have different accounting architectures.

This paper proposes that an accounting architecture should balance heterogeneous concepts of historical cost, fair value or present value and equity (stewardship) or operational accounting not only from historical correlativity but also from practical correlativity.

1. Introduction

This paper aims to clarify the transition process and facing issues of recent accounting practice through various discussions on the present value (discounted cash flow), especially from the standpoint of income measurement.

For this aim, we begin with discussing the allocation basis (interest method) and try to divide it into two meaningful forms according to the different treatments of traditional accounting concepts. After that, we argue the revaluation basis (fresh-start method) and divide it into two forms by the existence or nonexistence of a cost restriction. Following these discussions, we point out significant boundary bases using contrastive concepts of *stock* or *flow*, and *external* or *internal*. It also indicates that we are changing from flow-and-internal oriented (historical cost) accounting toward stock-and-external oriented (fair value) accounting. Finally, we propose the adequate applications of fair

value and present value in the context of global convergence of accounting

standards.

   According to the FASB, the present value has been divided into two forms.

One is consistent with the cost-allocation basis and is called accounting

allocation or interest method. The other is consistent with the value-revaluation

basis and is called direct measurement or fresh-start measurement (FASB

Discussion Memorandum 1990, SFAC No.7 2000).[416] However, the FASB does

not clarify the theoretical boundary basis of this dichotomy.[417]

   In order to make clear the feature of present value, this paper divides it into

four forms (see Figure 1). Two major differences exist between FASB's

classification and this paper's.

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[416] According to FASB's *Discussion Memorandum* (1990), "Accounting allocations recognize changes in the amount of an asset or liability working from the amount previously recorded (usually initial cost or proceeds). …… Direct measurements establish the carrying amount of asset or liability using current quantities, estimates, and assumptions." (paras.22, 24)

[417] It might be affected by the fact that while the former is derived from the internal rate of return (IRR) method in the field of investment theory, the latter is derived from the net present value (NPV) method.

First, we divide the allocation basis into two forms, cost allocation approach

[Form 1] and profit allocation approach [Form 2]. This partition clarifies the

different treatment of traditional accounting concepts (realization, matching

costs with revenues, relationship with receipts and payments). The difference is

also revealed in the matter which should be applied between balance

adjustment (catch-up) method and interest rate adjustment (prospective)

method.[418]

Secondly, direct measurement is divided into market value approach with the

restriction of cost [Form 3][419] and fair value approach [Form 4]. The former

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[418] According to FASB's *Discussion Memorandum* (1990) the catch-up method reports the change in estimate through an adjustment to the balance at the beginning of the period, while the prospective method reports the change in estimate prospectively through an adjustment to the interest rate at the beginning of the period (par.375). Although we have other methods such as dual method and retrospective method, since prospective and catch-up have been the main methods to adjust changes in estimate, this paper deals mainly with these two methods.

[419] In this paper, "market value" is used abstractly. It includes both fair value and value in use. "Fair value" is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants as the measurement date (FASB FAS No.157, 2006, par.5). "Value in Use" is the present value of estimated future cash flows expected to arise from the continuing use of an asset and from its disposal at the end of its useful life

recognizes only capital loss (impairment loss), but the latter recognizes capital

gain and capital loss without distinction. This partition is to compare Form 3 with

Forms 1 and 2 as an allocation basis.

This paper has three contributions. First, we divide the present value into four

forms so as to visualize the features of contemporary accounting. Second, we

reveal the meanings of recent movement from flow-and-internal oriented

(historical cost) accounting toward stock-and-external oriented (fair value)

accounting. Finally, we propose adequate applications of fair value and present

value in the context of global convergence of accounting standards. It will serve

to improve mutual understanding between countries which have different

accounting architectures including political, economical, relating laws and social

environments.

(IASB's *Discussion Paper* 2005, par.86).

Figure 1 Four Forms of Present Value

	This Paper	FASB (1990)	FASB (2000)	Examples of Application
Allocation Basis (Flow-oriented)	Cost Allocation Approach **[Form 1]**	Accounting Allocation or Interest Method	Interest Methods of Allocation	Held-to-maturity securities Impairment of a loan
	Profit Allocation Approach **[Form 2]**			
	Market Value Approach with the Restriction of Cost **[Form 3]**	no reference	Fresh-start measurements	Impairment of long-lived assets
Revaluation Basis (Stock-oriented)	Fair Value Approach **[Form 4]**	Direct measurement		Trading securities

Note) In general, Form 3 is classified into revaluation basis, because it falls under direct measurement.
However, this paper classifies it into allocation basis because its feature is similar to Form 1 and 2.
In another words, because it maintains cost basis and depreciation procedure which is the symbol
of allocation basis is applied after impairment loss is recognized.

2. Difference between Cost Allocation and Profit Allocation

There are various allocation lineages. This paper shows the differences of the

cost allocation and the profit allocation on the basis of example 1. (Hereinafter,

cash flow is abbreviated as CF, cash inflow is CIF, and cash outflow is COF, if

needed.)

[Example 1]

- At the beginning of the first period, equipment was purchased at 100. Its

   useful life is two years and the salvage value is zero.

- Initially, net cash inflow was estimated to accrue 121 at the end of the

   second period and was realized as estimated.

- Internal rate is 10%.

Vatter (1966, 689) explained the difference between the straight line method which is consistent with cost allocation and the compound interest method which is consistent with profit allocation as follows. "In the straight-line case, depreciation is computed and deducted in calculating the annual income (from cash inflow) while the compound interest model reverses the process - first computing income, which when subtracted from cash revenue, yields the amortization figure." (Parentheses added by authors. See Figure 2)

On the basis of Vatter's statement, the characteristics of the cost allocation (straight line method) can be clarified in that income (2nd period 21) is calculated ex post as the difference between realized cash inflow (2nd period 121) and the matching cost (deferred cost from the 1st period 50 plus depreciation cost at the 2nd period 50). On the other hand, the characteristics of the profit allocation (compound interest method) can be found in that profit in each period (1st period 10 and 2nd period 11) is allocated (created) through the

process of discount and premium of the expected cash inflow (2nd period 121)

at the internal rate of 10%.

From above, the decisive difference between them can be found in whether

the realization concept or matching concept functions or not, even though both

fall under allocation basis. This difference can also be found in that the former

presupposes actual cash flow (ex post cash flow) and the latter presupposes

estimated cash flow (ex ante cash flow).

Figure 2 Cost Allocation and Profit Allocation

Time	(Net) CIF	Cost Allocation: Straight Line Method			Profit Allocation: Compound Interest Method		
		(1)Carrying amount	(2)Amortization (100÷2year)	(3)Income (Realized CIF −Expenses)	(1)Carrying amount	(2)Income (Beginning of (1)×10%)	(3)Amortization (Expected Net
0	---	100	---	--	100	--	---
1	---	50	50*	0*	110	10	△10
2	121	0	50	21	0	11	110
Totals	121	---	100	21	---	21	100

＊ Since amortization 50 is deferred to the 2nd year, the expenses of the 1st year become zero,
therefore   income also becomes zero.

3. The Feature of Cost Allocation Approach [Form 1] Compared with Profit Allocation Approach [Form 2]

In this Section, we introduce the cost allocation approach [Form 1] in the line

of following three steps, and then try to clarify the feature of Form 1 compared
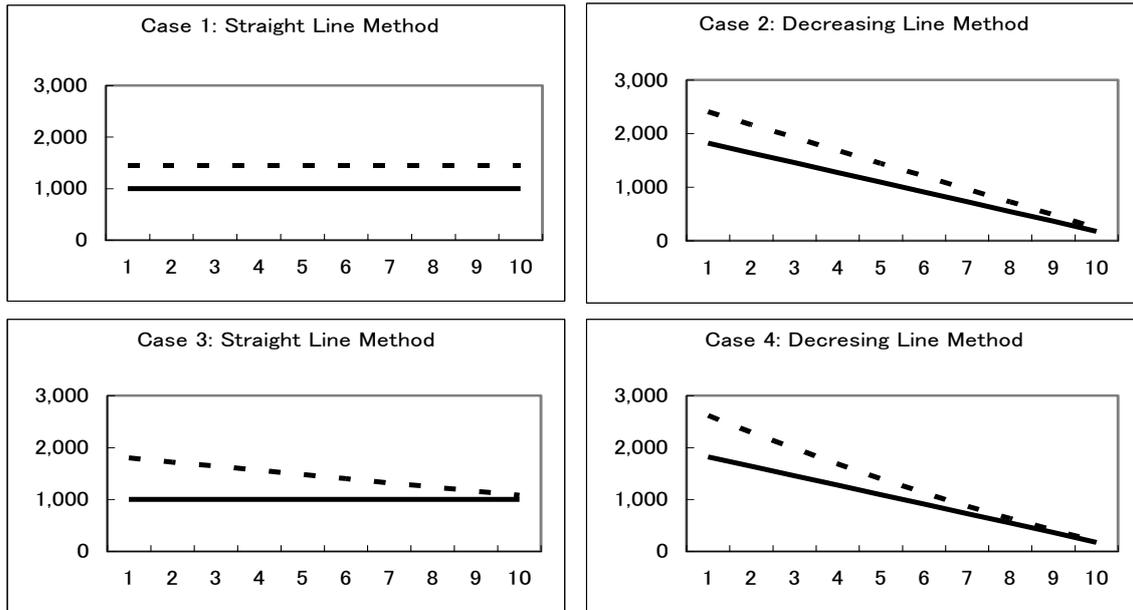
with Form 2.

First step is to identify the straight line method. Vatter recognized the straight

line method as a procedure that allocates a fixed amount to each period without

regard of future cash flow patterns. In second step, the cost allocation which

takes into account future cash flow patterns will be developed. When annual

cash inflow is constant, the straight line method will be selected (See Figure 3,

Case 1). If the cash inflow is assumed to diminish, the decreasing charge

method (sum-of-the-years-digits method, etc.) will be selected (Case 2).

The third step considers time value. In this step, the straight line method can

be justified when future cash inflow is estimated to diminish linearly (Case 3).

The decreasing charge method can be justified when future cash inflow is

estimated to diminish rapidly (Case 4).

After all, the cost allocation approach [Form 1] starts from the first step and

considers cash flow patterns and time value in selection of the depreciation

method. Such ideas can be found in Anton (1956, 117-134) and Beaver (1989,

chap.3), which clarified the relationship between cash flow patterns and

appropriate depreciation patterns.

Figure 3 Cost Allocation and Cash Flow Patterns

Notes) ・ Investment Amount: 10,000 Useful Life: 10 years Salvage Value: 0
     ・ Dotted line: Cash Flow Patterns Solid Line: Depreciation Cost

The above methods are based on the retroactive income calculation as the difference of revenues (realized cash inflow) and expenses (depreciation cost etc.). While in the profit allocation approach, income is determined at first, and depreciation is subordinated to it (See Figure 2). This approach sets artificial allocation (creation) of profit above realization and matching. The intension of this approach is the ex ante allocation (creation) of profits.

4. Present Value with the Restriction of Cost: [Form 1], [Form 2] and [Form 3]

This section compares market value approach with the restriction of cost

[Form 3] to cost allocation approach [Form 1] and profit allocation approach

[Form 2], and clarify the similarity of these forms and three methods which are

relating to estimation change. Example 2 will show this case.

[Example 2]

● At the beginning of the first period, equipment was purchased at 300. Its

　useful life is three years and the salvage value is zero.

● Initially, it was expected that net cash inflow accrues 130 at the end of the

　first period, 120 at the end of the second period and 110 at the end of the

　third period.

● Internal rate is 10%.

● Net cash inflow at the end of the first period was realized as estimated.

　However at the end of the first period, the estimation was adjusted

downward at the end of the second and third periods due to lowered

profitability, as 90 and 70 respectively.

- Fair value of the equipment was 120 at the end of the first period. If market

  participants estimate fair value of the equipment, they would predict net

  cash inflow from its asset at the end of the second and third periods, as 72

  and 62 respectively (Discount rate is 8%).

Figure 4 shows the calculation result and graph of the prospective method

and the catch-up method, which have been the two main methods for

impairment of a loan.

Figure 4 Prospective Method and Catch-up Method

Time	Realized CIF	Prospective Method *1			Catch-up Method *2		
		Carrying amount	Amortization	Income	Carrying amount	Amortization	Income
0	---	300	---	--	300	---	--
1	130	160	140	△10 (---)	140	160	△30 (-----)
2	90	70	90	0 (0%)	64	76	14 (10%)
3	70	---	70	0 (0%)	---	64	6 (10%)
Totals	290	---	300	△10	---	300	△10

Notes) In the parentheses, the rate of return are shown. Impairment loss is included in amortization.

*1 ・ Here, a zero rate is applied, because the revised rate (r) that fills the following formula is negative.

$300 = 130 (1+r)^{-1} + 90 (1+r)^{-2} + 70 (1+r)^{-3}$

・ Impairment loss 10 (=300-290) is included in amortization 140.

・ In the 2nd period, it is calculated as follows.

(1) Modified Carrying amount at the Impairment: 90 + 70 = 160
(2) Carrying amount at the end: 70
(3) Amortization (difference between (1) and (2)): 160 - 70 = 90
(4) Income (realized CIF - amortization): 90 - 90 = 0

*2 ・ Here, the revised balance is calculated with a discount rate 10% as follows.

$130 (1+0.1)^{-1} + 90 (1+0.1)^{-2} + 70 (1+0.1)^{-3} = 245$

・ Impairment loss 55 (=300-245) is included in amortization 160.

・In the 2nd period, it is calculated as follows.
Consistent with cost-allocation basis
(1) Modified Carrying amount at the Impairment: $90 (1+0.1)^{-1} + 70 (1+0.1)^{-2} = 140$
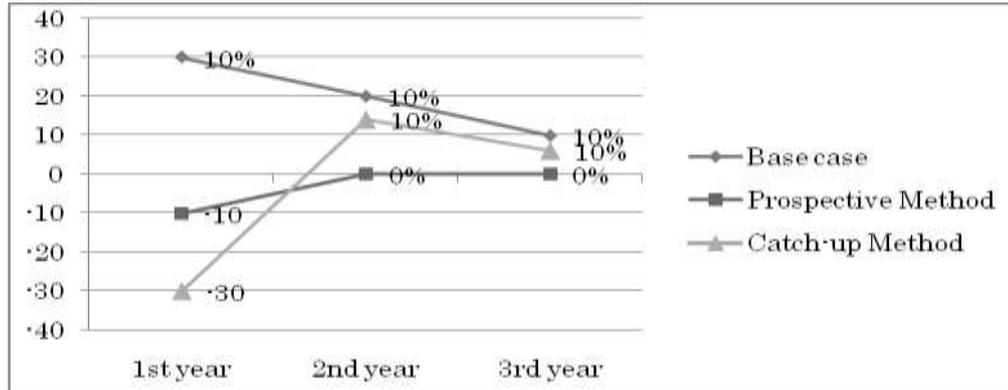(2) Carrying amount at the end: $70 (1+0.1)^{-1} = 64$
(3) Amortization (difference between (1) and (2)): 140 - 64 = 76
(4) Income (realized CIF - amortization): 90 - 76 = 14
Consistent with profit-allocation basis
(1) Income (Modified Carrying amount × 10%): 140×10％ = 14
(2) Amortization (realized CIF - income): 90 - 14 = 76

In FAS No.144 (FASB 2001), IAS No.36 (IASB 2004b) and Japanese GAAP

(BADC 2002. Hereinafter abbreviated as J-GAAP), the market value approach

with the restriction of cost [Form 3] is applied to long-lived assets. Form 3

includes two models. The fair value model in U.S.GAAP gives weight on the

assumption of market participants, while the value in use model in IFRS and J-

GAAP put much faith into company itself or management intents. Figure 5

shows the calculation results and graph of the fair value model and Value in

Use model.

Figure 5 Fair Value Model and Value in Use Model

Time	Realized CIF	Fair Value Model *1			Value in Use Model *2		
		Carrying amount	Amortization	Income	Carrying amount	Amortization	Income
0	---	300	---	--	300	---	--
1	130	120	180	△50 (-----)	140	160	△30 (-----)
2	90	57	63	27 (23%)	64	76	14 (10%)
3	70	---	57	13 (23%)	---	64	6 (10%)
Totals	290	---	300	△10	---	300	△10

Notes) In the parentheses, the rate of return are shown. Impairment loss is included in amortization.

*1 ・Here, impairment loss 80 (=200-120) is included in amortization 180 at the 1st period.

・In the 2nd period, it is calculated as follows.

Consistent with cost-allocation basis

(1) Modified Carrying amount at the Impairment: $72(1+0.08)^{-1} + 62(1+0.08)^{-2} = 120$

(2) Carrying amount at the end: $62(1+0.08)^{-1} = 57$

(3) Amortization (difference between (1) and (2)): 120 - 57 = 63

(4) Income (realized CIF - amortization): 90 - 62 = 27

Consistent with profit-allocation basis

(1) Income (Modified Carrying amount × 23%): 120×23％ = 27

(2) Amortization (realized CIF - income): 90 - 27 = 63

*2 ・Here, impairment loss 60 (=200-140) is included in amortization 160 at the 1st period.

・In the 2nd period, it is calculated as follows.

Consistent with cost-allocation basis

(1) Modified Carrying amount at the Impairment: $90(1+0.1)^{-1} + 70(1+0.1)^{-2} = 140$

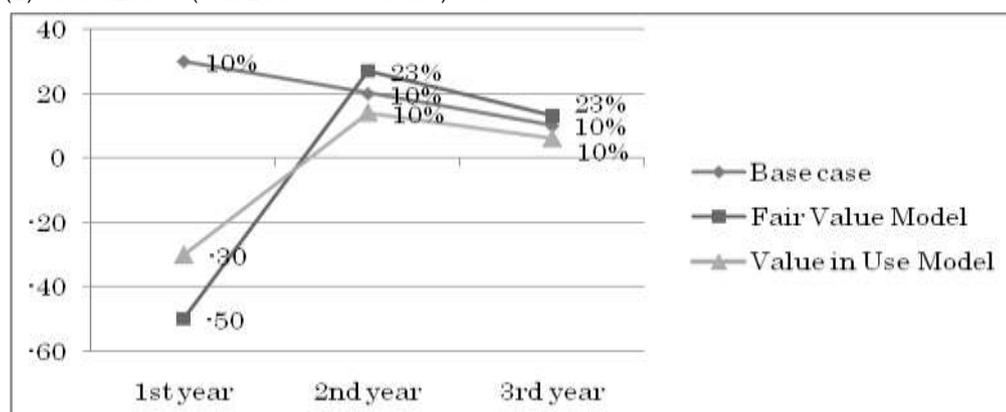(2) Carrying amount at the end: $70(1+0.1)^{-1} = 64$

(3) Amortization (difference between (1) and (2)): 140 - 64 = 76

(4) Income (realized CIF - amortization): 90 - 76 = 14

Consistent with profit-allocation basis

(1) Income (Modified Carrying amount × 10%): 140×10％ = 14

(2) Amortization (realized CIF - income): 90 - 14 = 76

There is no difference among the prospective method, the catch-up method,

the fair value model and value in use model in that cost is set as a restriction.

However, the underlying concept of income measurement differ each other.

First, the prospective method responds by adjustment of interest rate (in

Example 2, interest rate is reduced from 10% to 0%) when estimation changes

due to lowered profitability. It intends the ex post income measurement like

"recapture of the book value". Therefore, only part of the book value that cannot

be expected to be recaptured (10) is recognized as impairment loss. It belongs

to the cost allocation approach [Form 1]. Although Long-lived assets are

assumed in Example 2, the same argument can be made with a loan. FAS

No.15 (FASB 1977), which described impairment for a loan, once adopted the

prospective method.

Second, the catch-up method responds with immediate adjustment of balance

when estimation changes. It intends the income measurement like 'recapture of

the book value with normal return'. In Example 2, a normal return 10% is set out

first (2nd period 14 and 3rd period 6), before impairment loss (55) is determined.

It belongs to the cost allocation approach [Form 1], because the cost basis and

effective interest rate is applied. It also belongs to the profit allocation approach

[Form 2], because a reasonable future return is set out and impairment loss is

subordinate to it. Therefore it has both aspects of Form 1 and Form 2. At present, a predominant approach of impairment for a loan is the catch-up method which is adopted by FAS No.114 (FASB 1993a) , IAS No.39 (IASB 2004c) and J-GAAP (JICPA 2005).

Finally, as to market value approach with the restriction of cost [Form 3], there are two models within this approach. In the value in use model which is applied in IAS No.36 (IASB 2004b) and J-GAAP (BADC 2002), income measurement like 'recapture of the book value with the normal return' is intended. Therefore, a reasonable return 10% is set out first (2nd period 14 and 3rd period 6) and then impairment loss (60) is determined. Although the timing of recognition is different, as long as the normal return is unchanged, the calculation result of the catch-up method is same as the value in use model.

The difference between value in use 140 and fair value 120 at the impairment recognition means self-generating (internal) goodwill. The fair value model accounts for excessive loss at the time of impairment recognition compared to the value in use model, while it accounts for not only normal return (2nd year 14,

3rd year 6) but also excessive return (the realized part of self-generating

goodwill 20; 2nd year 13, 3rd year 7) in the subsequent periods. After all, the

fair value model which is applied in FAS No.144 (FASB 2001), income

measurement like 'the recapture of the book value with the market return

(normal plus/minus excess return)', the level of which is naturally expected in

the capital market, is intended. Figure 6 summarizes the above mentioned pints.

Figure 6 Summaries of Present Value Methods

Notes)・ *Internal*: Discipline based on the assumption of company itself
　　　・ *External*: Discipline based on the assumption of market participants
　　　・ *Flow*: Income is calculated by the difference between revenue and expense (consistent with
revenue and expense view)
　　　・ *Stock*: Income is calculated by the difference in net assets (consistent with asset and liability view)
　　・ (1), (2): Impairment of a loan　　(3), (4): Impairment of long-lived assets　　(5): Trading securities
　　・ ASBJ: Accounting Standards Board of Japan　　JICPA: Japan Institute of Certified Public Accountants

5.　Two Significant Boundaries Characterizing Various Forms

Figure 6 has two significant boundaries. One is between *Flow* and *Stock* and

the other is between *Internal* and *External*. The meanings of two boundaries are

as follows.

| FASB (1990) | This Paper | **Error!** | | Boundaries | | Examples of Application |
			α	β	
Allocation Basis	Cost Allocation approach **[Form 1]**	Prospective Approach	*Flow*	*Internal*	(1) FAS15 (FASB, 1977)
	Profit allocation approach **[Form 2]**	Catch-up Approach	*Stock (+Flow)*		(2) FAS114 (FASB, 1993a) IAS39 (IASB, 2004c) JICPA (2005)
Revaluation Basis	Market Value Approach with the Restriction of Cost **[Form 3]**	Value in Use Model			(3) IAS36 (IASB, 2006b) BADC (2002)
		Fair Value Model		*External*	(4) FAS144 (FASB, 2001)
	Fair Value approach **[Form 4]**	(Reflected constantly)	*Stock*		(5) FAS115 (FASB, 1993b) IAS39 (IASB, 2004c) ASBJ (2006a)

Firstly, the Boundary α dividing *Flow* and *Stock* focuses on the difference between prospective method [Form 1] with the characteristics of flow and catch-up method [Form 2] with the characteristics of stock as well as flow. Main difference is whether an economic (profit-making) opportunity is built in its income calculation system or not. In catch-up method, normal economic opportunity for the company is assumed since recapture of the book value with normal return is intended. This is the reason for immediate adjustment of stock, if profitability falls as compared to normal economic opportunities. Such a premise is also applicable to the value in use model. Instead of normal return,

recapture of the book value with market return (normal plus/minus excess

return) comes to be intended in the fair value model. This approach

presupposes market (external) opportunity for investors instead of normal

(internal) opportunity for the company itself. In economics, profit-making ability

is naturally expected. If it cannot be expected, loss is deemed to have accrued

and stock is immediately adjusted. Form 2 and Form 3 are actually based on

such an economic (profit-making) opportunity.

Next, the Boundary β relating to *internal* and *external* relates to the difference

between the catch-up method [Form 2] which applies to impairment for a loan

and the market value approach with the restriction of cost [Form 3] which

applies to impairment for long-lived assets.

As to a loan, the combination of the future cash flow on which it has agreed

among the affected parties and the effective interest rate is used for the

measurement of impairment loss. Both are based on the assumption of

company itself (internal).

On the other, in the selection of future cash flow and interest rate for impaired long-lived assets, market (external) based assumption is relatively important in U.S.GAAP, while company (internal) based assumption is relatively important in IFRS and J-GAAP.

In FAS No.144 (FASB 2001), present value technique is used for the objective of measuring fair value. While in IAS No.36 (IASB 2004b), value in use is applied and management's best estimate and/or the best recent financial budgets/forecasts are used. In J-GAAP(BADC 2002; ASBJ,2003), future cash flow shall be reflected a situation peculiar to the company, and in case the risk is reflected in the discount rate, the following rates shall be used.

 i. Rate of return which reflects a specific risk to the assets or assets group of the company

 ii. Weighted average cost of capital which is required to the company

 iii. Market average rate of return which rationally reflects a similar risk to the assets or assets group of the company

iv. Rational borrowing rate when financing against the assets or assets group

of the company (so-called nonrecourse loan)

Direct measurement (fresh-start measurement) has developed with criticizing

traditional accounting. In the early debate of 1960s, researchers who supported

direct measurement which is consistent with market (external) rate and

opportunity, economic present value (economic income) and opportunity value

theory criticized traditional accounting concepts (See Bodenhorn 1961, 583;

Philips 1963, 17-18; Wright 1964, 90). It seems to be difficult to focus on

traditional accounting concepts and the external rate at the same time.

Moreover, internal rate and external rate are based on quite different logic.

Thomas once explained as follows. "Net-revenue contributions (Present value

using internal rates) …… are highly relevant for managerial profit-maximizing

purposes. But there is no reason to believe that these figures also relevant to

the decision processes of readers of financial statements." (Thomas 1976, 9-10.

Parentheses added by authors)

There is no clear evidence whether the application of external rate is useful

for decision making for investors and prevention of company fraud. Rather, the

application of external rate to the internal rate applicable situation seems to

indicate the paradigm change from historical cost accounting toward fair value

accounting.

6. Recent Trend of Present Value

As discussed above, catch-up method has superseded prospective method as

of impairment for a loan. The market value approach with the restriction of cost

(fair value model and value in use model) has taken place of prospective

method and catch-up method as of impairment for long-lived assets. After all,

the direction from *internal* (management or entity discipline) toward *external*

(proprietary or market discipline) is the recent trend. It is also the direction from

flow (revenue and expense view) toward *stock* (asset and liability view).

Economic (profit-making) opportunity is taken into consideration with catch-up

approach and market value approach. These approaches intend to allocate

(create) artificial future profit, and have greater importance to economic

concepts (efficiency, future, ex ante) than accounting concepts (allocation, past, ex post).

If we rely on economic opportunity, accounting allocation might be replaced by the fair value approach [Form 4]. In fact, as for a loan, the comprehensive fair value model is proposed to substitute catch-up method (IASC *Discussion Paper* 1997; JWG *Draft Standard* 2000). Besides as for long-lived assets, the performance report project has been promoted in a form which is difficult to understand unless comprehensive fair value measurement (revaluation) for all accounts is assumed. The Matrix format of performance report issued by IASB (2002) is a typical example of such proposal.

If such a tendency progresses, the concepts of cost, allocation, realization and matching must be retreated. The nominal capital maintenance will be replaced by a new capital maintenance, which assumes maintenance of economic opportunities and defines capital in terms of capacity to earn the current market rate of return. (IASC *Discussion Paper* 1997, Chap. 6, paras. 2.4-2.7)

2341

Moreover, SFAC No.7 (FASB 2000, paras.43, 48, 117) calls the combination

of an estimated cash flow and a rate commensurate with risk (internal rate) as

the traditional present value, and combination of an expected cash flow and a

risk-free rate (external rate) as the expected present value. The former is

suitable for assets and liabilities with contractual cash flows such as a bond,

and the latter is suitable for those without contractual cash flows such as

pensions, other postretirement benefits, some insurance obligations, impaired

long-lived assets, product warranty, postretirement health care and

environmental remediation. The recent trend from the former toward the latter

indicates the change of accounting figure from transaction-based hard figures

toward statistical-based soft figures.

7. Present Value from Auditing Perspective

Present value oriented approach in recent years reveals other issues in terms

of auditing.

Basically, audit techniques rely upon material evidence which is listed on

balance sheet. This seems that present value orientation which coupled with

comprehensive income approach is *good news* for auditing, but of course, it is not true. The new approach introduces new assets which has value but not has physical materiality. This fact means that auditing must develop new tools for these equivocal assets but we cannot assert we have such dependable tools now.

After the World War Ⅱ, Japanese audit practice and standards always has followed US one. This fact makes the Japanese auditing falling into "minor" field, but such situation is now changing because many recently detected fraud cases highlighted the role of auditing.　These audit circumstance are common in the world like Enron affair in the U.S. or BCCI, Barings and Palmalat cases in Europe. Apparently, in these cases, complicatedly produced new types of assets are related to the fraud, and audit decision was deluded in some cases.

From auditing viewpoint, traditional accounting concepts are still important and practical. When we will continue to introduce present value and the related accounting practice, the notion of them must be re-examined like four forms in this paper, and show the way to yield *hard* (auditable) amount of assets. In

[Form 1] and [Form 2], we should obtain reliable rule to allocate cost. Because managements' arbitrariness intervene in [Form 1] and [Form 2] inevitably, auditors might not find firm allocation bases.

[Form 3] heavily depends on calculation model, so auditors should also confirm the justice of the used model. It means that even if the result of the calculation itself is correct, the ambiguous constituents or assumptions of the model might influence on the fairness of the result. In this form, auditors should verify the objectivity of the model used.

The fair value approach of [Form 4] requires auditors to find the evidence of fair value. Market often offers the fair value that everyone easily distinct, but there are some cases that no reliable market exists. Auditors may face same difficulties of [Form 3] in these cases.

Historical cost accounting has been offered *hard* evidence for auditors. With fair value accounting, however, auditors should seek alternative evidence which take place of the past transaction record.

8. The Necessity of Flow and Internal Aspects in Japan

In accounting, there are two functions to maintain the order of our society.

One is the function to provide decision useful information for investors. This is

called as operational accounting. The other function is to reconcile interests

among stakeholders. This function is called as equity (stewardship) accounting.

There are three main laws regulating accounting systems in Japan: The

Corporation Law (former name: Commercial Code), The Financial Products

Exchange Law (former name: Stock and Exchange Law), and The Corporation

Tax Law. These laws have their own purpose of preparing financial statements
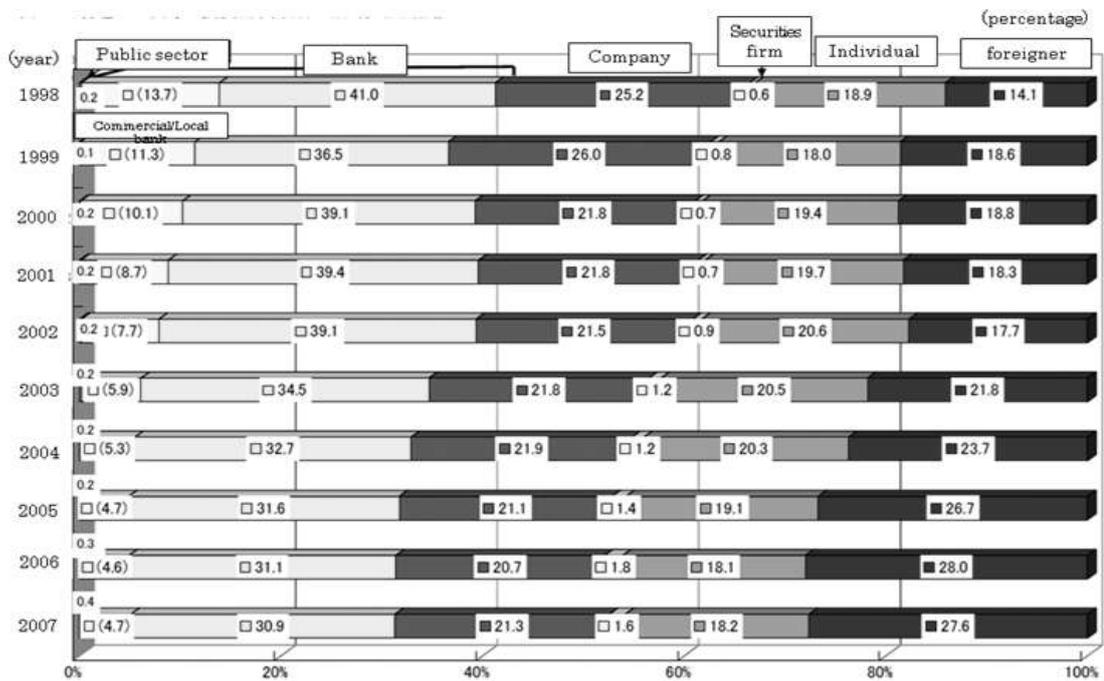
(financial reporting).

The main purpose of Financial Products Exchange Law is to provide decision

useful information to investors. Financial statements prepared by this law have

been affected by international accounting standards. The main purpose of

Corporation Law is to reconcile the interests between stakeholders and to

protect creditor through the calculation of distributable amount of surplus. The

main purpose of corporation tax law is to maintain the equity of taxation through

the calculation of fair income. But each law regulates accounting practice

respectively in order to achieve own purpose. In other words, each law does not

have prescriptions to cover overall accounting practice.

In Japan, Both distributable amount of surplus and taxable income are based

on the net income. We consider the reason for this fact in terms of *flow* or *stock*

and *internal* or *external* aspects of accounting systems.

Traditionally Japanese companies have held shares with each other. As

Figure 7 shows that the percentage of shareholding of companies is almost the

same as percentage of the individual investors. Through cross-holdings,

Japanese companies build up "business groups", so called "Keiretsu" such as

Sumitomo and Mitsubishi (Koga, 2007, 220).

Figure 7 Transition of share holding ratio by investor

(year)	Public sector	Bank	Commercial/Local bank	Company	Securities firm	Individual	foreigner
1998	0.2	(13.7)	41.0	25.2	0.6	18.9	14.1
1999	0.1	(11.3)	36.5	26.0	0.8	18.0	18.6
2000	0.2	(10.1)	39.1	21.8	0.7	19.4	18.8
2001	0.2	(8.7)	39.4	21.8	0.7	19.7	18.3
2002	0.2	(7.7)	39.1	21.5	0.9	20.6	17.7
2003	0.2	(5.9)	34.5	21.8	1.2	20.5	21.8
2004	0.2	(5.3)	32.7	21.9	1.2	20.3	23.7
2005	0.2	(4.7)	31.6	21.1	1.4	19.1	26.7
2006	0.3	(4.6)	31.1	20.7	1.8	18.1	28.0
2007	0.4	(4.7)	30.9	21.3	1.6	18.2	27.6

(percentage)

Source) http://www.tse.or.jp/market/data/examination/distribute/h19/distribute_h19a.pdf (in Japanese),

Latest access date: 06/13/2009.

As Figure 7 shows, the percentage of shareholding of banks are above 30% and it indicates that banks are the largest shareholder in Japan. Through lending and boil out loan, banks act as big creditors as well as shareholders of the borrowing company. It is often called as "main bank system".

In this situation, main interested parties surrounding a company are main bank and/or companies that make alliance in the business group. Especially main bank is able to get necessary information from the interested company

directly in order to monitor business affairs. This situation has led to *internal oriented accounting* in Japan.

Under the Corporation Law, in order to calculate distributable amount of surplus under the Corporation Law, it is necessary to distinguish realized and unrealized income. As long as shareholder's liability is limited, a company's asset is the only "mortgage" for creditors. If a company distributed unrealized income, company could not maintain a mortgage for creditor and reconciliation of interests could not function. And historical cost is suitable basis of distributable amount of surplus calculation, because unrealized income is not recognized in this measurement system. Under the Corporation Law, *the Regulation Concerning Calculation of Company* prescribes "net income that constitutes main resource of distributable amount as difference of revenue and expenses" (§ 94).

Taxable income adjusts the income calculated under the Corporation Law. According to article 22 in the law prescribes that "revenue and expense are recognized on the basis of J-GAAP except as otherwise provided".

Above two income calculations make Japanese accounting practice *flow* oriented. The basic features are historical cost, matching costs with revenues and the revenue and expense view.

On the other hand, accounting standards reforms have started after "Financial Big Bang" at 1996. The purpose of Financial Big Bang is to realize free, fair and global financial market. Accounting standards reforms which respond to international accounting standards have been deemed as an important part of Accounting Big Bang. Japanese government considered that in order to pull market price, it was necessary to disclose accounting information which is equivalent to the international accounting standards for foreign investors. In fact as Figure 7 shows the percentages of shareholding of foreign investor is increasing year by year. This means *external* feature of accounting has emerged apparently. IASB and many other conceptual frameworks assume that investors need information about future cash flow and income based on asset and liability view.

This aspect relates to the Financial Products Exchange Law. The purpose of this law is to provide decision useful information to investors but this law does not have its own prescriptions relating to accounting measurement. This law entrusts accounting standards setting body to establish accounting standards. To achieve this purpose, Japanese accounting standards setting bodies (BADC and ASBJ) have been preparing accounting standards so that it may not be contradictory to the international accounting standard. For example, the variance of revaluation for available-for-sale security, differed hedge gain or loss and foreign currency translation difference are recognized in the balance sheet. These items are recognized as (other) comprehensive income or recognized in net assets part of the balance sheet directly. This is the feature of *stock* oriented.

However, according to empirical studies, investors have preferred net income to comprehensive income. The Discussion Memorandum on Conceptual Framework issued by the ASBJ equates net income (flow-oriented) with comprehensive income (stock-oriented). It states "Net income has been widely

used for investors over the long period, and experiential proof which supports

the usefulness of net income has been confirmed so far. Therefore we decided

to give the independent status to net income as before." (ASBJ *Conceptual*

Framework 2006b, chap.3, par.21)

This means that although the operational accounting is important primarily,

accounting standards setting bodies cannot make slight of equity accounting.

Actually global movement of convergence has big effect on Japanese

accounting standards and now we can see *stock* and *external* oriented

prescriptions in the Corporation Law. But traditional *flow* and *internal* oriented

accounting has still effect to maintain social order through the reconciliation of

the interests between stakeholders and protection of creditor in Japan.

9. Concluding Remarks

Accounting has both aspects of historical correlativity and practical

correlativity. There is no doubt that traditional accounting concepts have played

an important role in the sense of these correlativities.

Recently a growing number of journalists, standard setters, professionals and academics in the world have been claiming that historical cost accounting should be transferred into fair value accounting in order to accomplish the global convergence of accounting standards. According to this paper, this means the movement from *internal* (management or entity discipline) toward *external* (proprietary or market discipline), and from *flow* (revenue and expense view) toward *stock* (asset and liability view).

When we emphasize *stock and external* view and the movement toward fair value accounting, the balance sheet might recognize the variance of revaluation for every account and the performance report might recognize the changes in net assets as a part of comprehensive income to provide decision useful information to investors. At the same time, however, as mentioned, a consensus about the importance of *flow and internal* exists in the context of practical correlativity in Japan.

In order to deal with a worldwide stock market plunge and financial crisis which stemmed from the nonperforming subprime mortgage, the Emergency

Economic Stabilization Act of 2008 is enacted in the U.S. In the section 132,

this law refers to the Securities and Exchange Commission (SEC)'s authority to

suspend the application of SFAS No. 157. Also in the section 133, SEC is

required to publish a research report on mark-to-market accounting as provided

in SFAS No. 157, the effects on balance sheet, and impact on the quality of

financial information.[420] As we have given much weight on mark-to-market

accounting, we do not have such negative discussion as suspension of fair

value accounting. However it might be a swing back signal towards historical

cost accounting.

This paper proposes that an accounting architecture should balance

heterogeneous concepts, such as allocation and revaluation, ex post and ex

ante, traditional present value and expected present value, external and

internal, stock and flow, and operational accounting and equity (stewardship)

accounting without overemphasizing any one of these concepts in order to

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[420] The Securities and Exchange Commission delivered the result "*Report and Recommendations Pursuant to Section 133 of the Emergency Economic Stabilization Act of 2008: Study on Mark-to-Market Accounting*" to Congress on December 30, 2008.

maintain the order of our society. We have to emphasize these facts not only

from historical correlativity but also from practical correlativity.

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THE EFFECT OF IFRS IMPLEMENTATION ON EARNINGS QUALITY: CASE IN JAPAN AND INDONESIA

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Abstract

The purpose of this paper is to examine the impact of adoption of IFRS on earnings quality of Japanese and Indonesian companies in the convergence process. The examination is focused on the persistence and accrual quality model. High-quality financial reports provide investors with the information and confidence necessary to invest in the global capital markets. A high-quality set of accounting standards enables investors to receive suitable information while considering the reasonable costs of implementing those standards.   The contribution of this paper, especially for policy maker, is to give the policy maker for the future direction in standard setting. This paper also verifies the difference between the SEC rule companies and Japanese GAAP companies separated by the choice of accounting standards in Japan. There are some implications shown by the results. In Japan, it is clear that the choice of GAAPs changes the earnings quality by the development of convergence. The accrual quality has a negative impact for CFO(t-1) and CFO (t). In the other hand, Indonesian cases by persistence and accrual quality models indicate each of significant results: (1) the estimated coefficient for the incremental persistence for each of the eleven accounting standards and (2) eight of the eleven estimated coefficients for the accounting standard effect; five of which are positive.

Keywords: IFRS, U.S.GAAP, Japanese GAAP, Earnings Quality, Convergence

1. Introduction

High-quality financial reports provide investors with the information and confidence necessary to invest in the global capital markets. A high-quality set of accounting standards enables investors to receive suitable information while considering the reasonable costs of implementing those standards. Recent initiatives on convergence to a single set of high-quality global accounting standards have been well received by regulators, standard setters, the accounting profession, and business and academic communities worldwide. Companies in more than 100 countries have adopted a variation of International Financial Reporting Standards (IFRS) for their financial reporting purposes. Accounting has been regarded as "the language of business" and the question that has been recently raised is: "Can all accountants worldwide speak the same language?" In other words: "Is a set of globally accepted accounting standards feasible?" Is convergence to IFRS a real solution?[421] This study attempts to provide answers to these questions by obtaining opinions and insights from a sample of academicians regarding the relevance, benefits, and ways of possible convergence in accounting standards[422].

A recent survey conducted by the International Federation of Accountants (IFAC) reveals that convergence to a single set of international accounting standards is key to economic development as the majority of respondents (89 percent) find compliance with IFRS as very important (IFAC, 2007). The AICPA also supports the current move toward convergence to a single set of global accounting standards and the use of IFRS for financial reporting, while recognizing that "changes need to occur in the U.S. auditing, regulatory, and legal environments" (AICPA, 2007). Securities and Exchange Commission chairman

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[421] Convergence refers to the process of minimizing differences between the national accounting standards (e.g., U.S. GAAP and IFRS).

[422] We are also in the process of expanding our sample to practitioners (e.g., CPAs, CFOs) and will present the comparative results of both samples in the next draft of this paper.

Christopher Cox, while promoting convergence by stating that "IFRS is coming" warned that "U.S. generally accepted accounting principles (GAAP) aren't going away anytime soon".

Prior research of accounting standards has considered the accounting quality of one standard. Suppose that a manager or firm chooses a single set of two and more several accounting standards, for example, IFRS and U.S.GAAP. There are race to the bottom for the quality (Dye and Sunder, 2001). The competitive standards setters, IASB and FASB, try to decline the number of accounting standards, since they make an effort to attract the company and manager better than the other standard. As a result, the possibility for a bad profit manipulation increases. Does the convergence toward IFRS keep higher-quality earnings? This study examines the impact of adoption of IFRS on earnings quality of Japanese companies in the convergence process. The contribution of this paper, especially for policy maker, is to give the policy maker for the future direction in standard setting.

2. Theory and Hypotheses Development

2.1. Prior Studies

Several studies have addressed harmonization and convergence in global accounting standards. Anderson (1993) discusses the advantages of convergence to a common set of global accounting system. Belkoui (1994) and Choi et al. (1999) present the factors that influence the development of an international accounting system and the harmonization process. Saudagaran (2001), Dunn (2002) and Mednick (1991) examine the impediments in the harmonization of accounting including the cultural and political barriers. These studies argue that the harmonization process provides several advantages: improving the comparability of international accounting information, enabling the flow of international investment, and making consolidation of divergent financial reporting more cost-effective. The most severe impediment to harmonization is the extent of differences in accounting policies and practices of various countries, lack of vigilant and effective standard-setting bodies in some countries, and the diversity

in political and economic factors worldwide. Prior studies (e.g., Barth, Landsman, & Lang, 2005; Gassen & Sellborn, 2006; Barth, Landsman, & Lang, 2007) report some improvements in financial reporting quality following voluntary IFRS adoption. Barth et al. (2005, 2007) find that a sample of firms that voluntarily adopted IFRS exhibited lower levels of earnings management and more timely loss recognition compared with a sample of firms that used local GAAP. Other studies (e.g., Goncharov et al., 2005; Vantendeloo et al., 2005) find no differences in earnings management between firms that voluntarily adopted IFRS and those that did not.

Daske, Hail, Leuz, & Verdi (2007) examine the economic consequences of requiring IFRS for financial reporting worldwide and find an increase in market liquidity and equity valuations around the time of the mandatory introduction of IFRS, whereas there is mixed evidence of the effect on firms' cost of capital. Furthermore, Daske et al. (2007) report capital market benefits were more pronounced in countries with strict enforcement regimes and for firms that voluntarily switch to IFRS, less pronounced for countries when local GAAP are closer to IFRS, with an IFRS convergence strategy and in industries with higher voluntary adoption votes. The use of IFRS is expected to improve the comparability of financial statements, strengthen corporate transparency, and enhance the quality of financial reporting. Armstrong, Barth, Jogolinzer, & Reidl (2007) argue that IFRS reporting makes it less costly for investors to compare firms across countries and capital markets. Covrig, DeFond, & Hung (2007) suggest that convergence towards IFRS reporting can facilitate cross-border investment and thus the integration of capital markets.

Prior studies pertaining to convergence towards IFRS either investigates market reactions to several events regarding the EU's movement toward mandatory IFRS reporting or examine the impact of mandatory IFRS adoption in financial reporting in different countries. Results of market event studies of the mandatory IFR reporting are mixed and inconclusive. Comprix, Muller, & Standford-Harris (2003) find

insignificant but negative market reaction to four key events associated with mandatory IFRS reporting for EU firms. Armstrong et al. (2007) report a positive (negative) market reaction to 16 events that increase (decrease) the likelihood of IFRS adoption in 2002 to 2005 with more positive effects for firms with high pre-adoption information asymmetry, lower quality pre-adoption information environments and firms that are domiciled in common law countries. Academic studies (e.g., Lang, Smith Raedy, & Wilson, 2006; Leuz, 2006) support that suggests that IFRS financial reports are not only affected by home-country institutions but also retain a strong national identity. Daske et al. (2007) find that a serious IFRSs adopter experienced significant declines in their cost of capital and substantial improvements in their market liquidity compared to label adopters. The emerging interests in convergence in accounting standards and inconclusive results of related studies motivate us to conduct a survey in determining the relevance and feasibility of such convergence.

2.2. Convergence to a Single Set of High Quality Reporting Standards

Accounting standards vary significantly worldwide, with the exception of a trend toward requiring greater reliability, transparency in financial reporting, and more accountability to investors. Management is being held accountable for the quality and reliability of financial statements and the effectiveness of related internal controls in the United States. Globalization and technological advances promote global investment and capital markets. Global capital markets demand reliable, transparent, and timely financial information generated under a single global accounting standard. Global financial reporting during the past two decades has transformed from the need for harmonization of accounting standards, to reconciliation, and now to full convergence to a single set global accounting standards. IFRS are intended to be equally applicable to financial reporting by all public companies worldwide. Proponents of convergence to IFRS call for a mandatory uniform set of globally accepted accounting standards to minimize the likelihood of informational

externalities and strengthen comparability in financial reporting practice worldwide. Nonetheless, the corporate ownership structure and corporate governance and financial reporting process vary among countries. Corporations in Europe are often owned by a controlling shareholders group, compared to the dispersed-ownership structure in the United States. While the principles-based IFRS may well work for European majority-owned corporations, U.S GAAP may best serve dispersed-ownership corporations in the United States.

The real goal of convergence should be to benefit global investors and make global accounting standards more cost-effective and efficient. As the corporate governance measures of majority-owned corporations in Europe are different from those of dispersed ownership structures of U.S. corporations, the financial reporting standards could also be different. Financial reporting irregularities and manipulations of majority-owned corporations differ from those of U.S. corporations in several respects. First, managers of majority-owned corporations are motivated by short-terms and earnings guidance because they rarely sell shares. Second, financial manipulations are done through misappropriation of the private benefits of controls. In dispersed-ownership corporations, significant portions of management compensation in terms of stock options or stock ownership are tied into stock price performance which provides adequate incentives to focus on short-term earnings manipulations. Thus, the ownership structure significantly affects the corporate governance and financial reporting processes. The U.S. GAAP is more rules-based, designed to minimize incentives and opportunities for self-serving interests of management, to focus on earnings management.

There is some evidence of a move towards convergence to IFRS as issued by the IASB including: (1) more than 100 countries have now adopted a variation of the IFRS; (2) all listed companies in EU member countries have been required to comply with IFRS in their consolidated financial statements since 2005; (3) regulators worldwide (e.g., IOSCO, SEC) have allowed their foreign issuers to use IFRS for cross-border securities offerings and listings; (4) the SEC has eliminated reconciliation

requirements for foreign issuers that use IFRS as issued by the IASB; and (5) the SEC is considering the possibility and applicability of allowing U.S. companies to use IFRS for their filing and reporting purposes. On November 15, 2007, the SEC unanimously approved amendments to its rules and forms that practically eliminate the previously required reconciliation to U.S. GAAP for foreign private issuers (FPIs) using IFRS issued by the IASB for general purpose financial reporting[423]. This ruling is viewed as the SEC commitment towards ultimate convergence in the global financial reporting process, promotion of the global capital markets, and support for the global acceptance of IFRS as issued by the IASB. It appears the momentum towards a single set of globally accepted accounting standards is gaining needed supports as U.S. GAAP will ultimately be replaced by IFRS. During the past several years more than 100 countries have adopted IFRS as accounting standards for their financial reporting purposes.

2.3. Trend for IFRS Implementation

Some challenges that need to be addressed to facilitate convergence toward IFRS are: (1) consistent interpretation and application of IFRS cross jurisdictions; (2) the feasibility of adoption of IFRS by U.S. multinational companies in general and U.S. companies in particular; (3) educating market participants regarding the differences between U.S. GAAP and IFRS; and (4) effects of switching from national accounting standards to IFRS for regulatory filing purposes and auditing. Both leaders of the IASB and FASB have predicted that by 2011 significant progress towards convergence in the global financial reporting process

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[423] U.S. Securities and Exchange Commission (SEC). 2007. SEC Takes Action to Improve Consistency of Disclosure to U.S. Investors in Foreign Companies (November 15). Available at: http://www.sec.gov/news/press/2007/2007-235.htm. SEC Announces Roundtable Discussions Regarding International Financial Reporting Standards (November 15). Available at: http://www.sec.gov/news/press/2007/2007-261.htm.

will be made[424]. The SEC confirmed the equivalence between IFRS and U.S. or Japanese GAAP on 12 December 2008(EC, 2008), but now they need to improve the differences among them. U.S. GAAP and IFRS have yet to be converged despite continuing efforts by the FASB, IASB, and SEC rules. Japanese GAAP is also in the same condition. There are still substantial differences between U.S. GAAP and IFRS in several areas of revenue recognition, equity valuation, and industry specification, and both need significant improvements. One way to resolve these differences is to move U.S. financial reporting to IFRS by setting a timetable toward ultimate adoption of IFRS by all public companies worldwide, including U.S. companies.

KPMG surveys show that about 76 percent (60 percent) of financial analysts reported a fair amount or a great deal of knowledge about IFRS in 2006 (2005) with the best informed being those who follow companies on a global basis and have received IFRS training (KPMG, 2007). Responding analysts admitted that their understanding of the possible impact of IFRS on mergers and acquisitions was poor, whereas they had a better understanding of IFRS's effects on share options, financial instruments, and pensions, and good understanding of the presentation of the income statement.

We should expect significant changes in financial reporting. The SEC is promoting the idea of giving U.S. listing companies the choice between U.S. GAAP and IFRS compliance in their filings with the SEC and announced the "road map" for U.S. companies to apply the mandatory IFRS on November 2008. In the plan, the SEC would permit the companies to fill certain requirements to apply IFRS on financial statements after 2010 financial year, and decide whether all the U.S. companies to apply the IFRS by 2011. Both the FASB and IASB are moving toward convergence in their standards and it is also expected that U.S. companies that are interested in adopting IFRS are those that have

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[424] AccountingWeb. 2006. IASB Chairman Calls for Accounting Standards Convergence by 2011 (June 20). Available at: http://www.accountingweb.com.

overseen subsidiaries that already use IFRS. Smaller U.S. companies whose global competitors are using IFRS in their financial reporting may also be good candidates for IFRS adoption.

Widespread adoption of IFRS by U.S. companies requires proper understanding of IFRS and readiness of those companies' management, board of directors, auditors, and investors to convert to a new set of standards. High-quality financial reports strengthen investors' decisions and their confidence in the capital markets. A high-quality financial reporting process requires: (1) the use of a single set of robust accounting standards in reflecting financial information; (2) a comprehensive business reporting system of presenting financial and nonfinancial key performance indicators (KPIs) beyond the financial statements and footnotes; (3) a set of globally accepted corporate governance measures including laws, rules, and regulations to ensure effective enforcement and compliance with these measures; (4) high-quality globally accepted audit standards to lend credibility to financial reports; and (5) effective systems of training and educating preparers, investors, analysts, and auditors about IFRS and international auditing standards.

Currently, there are three methods by which national standards setters or regulators have implemented IFRSs. The first method requires both domestic and foreign listed companies to use IFRSs in their financial statement preparation and to state conformity to IFRSs in the management's assertions, financial statements, and independent audit report. A second method would be to adopt all IFRSs for listed companies but to make changes to comply with the regulatory, legal, and business environments of the country. Finally, the third approach is to require dual reporting for listed companies where the financial statements state conformity with both national GAAP and IFRSs (New Zealand and Australia) (Rezaee, 2008).

Accounting Standards Board of Japan (ASBJ), a private accounting standards setter, has reached on the joint agreement with IASB for the convergence project plan (Tokyo agreement) and is running for the

international convergence of high-quality accounting standards (ASBJ, 2008). Their activities result in the official evaluation by CESR that Japanese GAAP is the equivalent to IFRS on December 2008 (EC, 2008). Currently in Japan, there are discussions about mandatory IFRS adoption for all Japanese listing firms or IFRS acceptance. The increase of IFRS adoption in many countries in the world and the growing movements in the United States could be full IFRS in any financial market. On September 10, 2008, the interim report has just been announced as a master schedule to require the action to find a specific outlook that Japanese companies would allow their financial statements based on IFRS (FSA, 2009). According to the report, two important possibilities are as follows; (1) the possibility of the IFRS application starting from FY2010 for Japanese listing companies (2) the possibility of the mandatory IFRS as a simple set of accounting standards by FY2012. They will be judged from the spread of IFRS worldwide in the near future.

In Indonesia there was Indonesian accounting standards (PSAKs) which has been issued by the Indonesian Accounting Standards Board of the Indonesian Institute of Accountants. Many of the older standards were developed with reference to US GAAP but newer standards are being developed based on IFRS. The Indonesian Institute of Accountants is currently considering the timing for the adoption of IAS 30, Recognition and Measurement of Financial Instruments. This is likely to have a significant impact that goes well beyond the obvious consequences in the financial statements of volatility earnings. The main areas affected by this area: risk management, systems, processes and products. The Indonesian Institute of Accountants announced plans to convergence Indonesian Accounting Standards with International Financial Reporting Standards (IFRS) with the new standards effective for accounting periods beginning on 2012. There were several standards that have adopted IFRS up to 2008 as shown in Table below:

TABLE 1. Standards that have adopted IFRS

No.	ACCOUNTING STANDARDS
1.	IAS 2. Inventories
2.	IAS 10. Events after balance sheet date
3.	IAS 11. Construction contracts
4.	IAS 16. Property, plant and equipment
5.	IAS 17. Leases
6.	IAS 18. Revenues
7.	IAS 19. Employee benefits
8.	IAS 23. Borrowing costs
9.	IAS 32. Financial instruments: presentation
10.	IAS 39. Financial instruments: recognition and measurement
11.	IAS 40. Investment property

In 2009 and 2010 Indonesian Accounting Standards Board will convergence 29 accounting standards into IFRS. Here are Indonesian Accounting Standards that will be convergenced in 2009-2010:

TABLE 2. Indonesian Accounting Standards Convergence Program 2009-2010

No.	ACCOUNTING STANDARDS
1	IFRS 2. Share-based payment
2	IAS 21. The effects of changes in foreign exchange rates
3	IAS 27. Consolidated and separate financial statements
4	IFRS 5. Non-current assets held for sale and discontinued operations
5	IAS 28. Investments in associates
6	IFRS 7. Financial instruments: disclosures
7	IFRS 8. Operating segment
8	IAS 31. Interests in joint ventures
9	IAS 1. Presentation of financial
10	IAS 36. Impairment of assets
11	IAS 37. Provisions, contingent liabilities and contingent asset
12	IAS 8. Accounting policies, changes in accounting estimates and errors
13	IAS 7. Cash flow statements
14	IAS 41. Agriculture

15	IAS 20. Accounting for government grants and disclosure of government assistance
16	IAS 29. Financial reporting in hyperinflationary economies
17	IAS 24. Related party disclosures
18	IAS 38. Intangible Asset
19	IFRS 3. Business Combination
20	IFRS 4. Insurance Contract
21	IAS 33. Earnings per share
22	IAS 19. Employee Benefits
23	IAS 34. Interim financial reporting
24	IAS 10. Events after the Reporting Period
25	IAS 11. Construction Contracts
26	IAS 18. Revenue
27	IAS 12. Income Taxes
28	IFRS 6. Exploration for and Evaluation of Mineral Resources
29	IAS 26. Accounting and Reporting by Retirement Benefit Plan

2.4. The institutional Framework and Use of "International" Standards

The institutional framework impacts on the form and content of

financial reporting. The

legal systems in a country influence on financial reporting and may influence companies' motivation to use international standards. For example; Japan as a code law country depends on their government and also tax dominated. They vary in the extent of their international resource dependence and accounting has traditionally served the needs of creditors and tax authorities. The institutional framework in each country has evolved overtime, and changed in response to demands for greater comparability in reporting. Harmonization initiatives have occurred at national, regional and international level. They have been influenced by the development of the IASC and a set of standards that are adopted or used in formulating national standards in many nations throughout the

world (IASB 2002c; 2002d). The position of the IASC as the global standard setter was strengthened by several events. In 2001, IASC, the setter of International accounting standards (IAS), was restructured to IASB, gaining support of all side including national standards setters formally, while International Organization of Securities Commissions (IOSCO) admitted officially. The power of IASB increased by the decision of EU that he members forced to report in their consolidated financial statements on mandatory IFRS (including IAS) after 2005 fiscal year.

A company's decision to use " International accounting standards" is affected by the institutional framework (the body of accounting law, rules and accepted practices as well as the institutions that formulate, administer and enforce these requirements) of its home country. Since institutional frameworks vary between countries, a company's country of origin will impact on its use of international standards. In theory and subject to meeting minimum legal requirements, a company could prepare financial statements for the public based on any accounting standards it chooses. However, in practice cost considerations mean that a company's choice of standards reflects the requirements of the institutional framework of its home country. Two countries (Japan and Indonesia) are included in this study as they illustrate a range of positions in relation to the use of international standards, as shown in TABLE 3.

TABLE 3. Use of National and International Standards in Japan and Indonesia

Country	Regulation Financial Statements
Indonesia	National GAAP and International standards are used
Japan	- National GAAP used by most firms. Specific firms have permission to lodge US GAAP consolidated financial statements - International standards are sometimes used, either instead of national GAAP or in a convenience translation to US GAAP

2.5. Accounting Standards and Accounting Quality

Despite pressure for companies to use common standards, some issues relating to their requirements and enforcement are still to be resolved. The collapse of ENRON and the subsequent demise of its audit firm Arthur Andersen have drawn attention to standard setting and regulation. Any change made in US can be expected to influence the international environment. Considering the institutional framework in each country, predictions can be made about companies' use of IFRS and choice between U.S. GAAP and IFRS. Japanese and Indonesia accounting has been influenced by U.S. accounting practices (McKinnon, 1986). Since 1970s, several Japanese firms have prepared consolidated accounts according to U.S. GAAP. However, Japanese standard setters refer to IFRS in setting standards and have announced a greater role for IFRS in their process so firms may also use IFRS.

The purpose of SEC reconciliation was to improve the quality and comparability of financial reporting of foreign listing companies, but several discussions criticized the SEC policy for re-labeling regulation in the reason why companies felt the heavy duties such strict disclosure regulations to listed in the U.S. market. Biddle and Saudagaran (1991) reported the foreign companies prefer to list on the other Stock Exchange with easier regulations than the U.S. market. And the research restated that it spend for Japanese firms listing on U.S financial market to need at least $ 100 million a year to reconcile their financial statements on the SEC force. The earlier study on the relation of the value of reconciliation (Meek, 1983; Amir, Harris and Venuti, 1993) found that the evidence that the stock price reaction to the disclosure of the reconciliation was not immediately available. Herrmann, Inoue and Wayne (1996) states the only available to U.S. GAAP does not guarantee the comparability of financial data of Japanese companies and U.S. companies based on U.S. GAAP were restated to conform to the formal U.S. We can say that the use of a single set of U.S. GAAP is not comparable between U.S. and Japanese firms (at least). TABLE 4 shows the companies taking SEC rule as of FY2008.

TABLE 4. SEC rule Companies in Japan (N=36)

No.	Security code	Company Name	Industry
1	2282	NIPPON MEAT PACKERS, INC.	Foods
2	3591	WACOOAL HOLDINGS CORP.	Textiles
3	3774	Internet Initiative Japan Inc.	Communications
4	4817	Jupiter Telecommunications Co., Ltd.	Communications
5	4901	FUJIFILM Holdings Corporation	Chemicals
6	6301	KOMATSU LTD.	Machinery
7	6326	KUBOTA CORPORATION	Machinery
8	6501	Hitachi, Ltd.	Electric & Electoronics Equipment
9	6502	TOSHIBA CORPORATION	Electric & Electoronics Equipment
10	6503	Mitsubishi Electric Corporation n	Electric & Electoronics Equipment
11	6586	Makita Corporation	Machinery
12	6594	NIDEC CORPORATION	Electric & Electoronics Equipment
13	6645	OMRON Corporation	Electric & Electoronics Equipment
14	6723	NEC Electronics Corporation	Electric & Electoronics Equipment
15	6752	Panasonic Corporation	Electric & Electoronics Equipment
16	6758	SONY CORPORATION	Electric & Electoronics Equipment
17	6762	TDK CORPORATION	Electric & Electoronics Equipment
18	6764	SANYO Electric Co., Ltd.	Electric & Electoronics Equipment
19	6773	PIONEER CORPORATION	Electric & Electoronics Equipment
20	6857	ADVANTEST CORPORATION	Electric & Electoronics Equipment
21	6971	KYOCERA CORPORATION	Electric & Electoronics Equipment
22	6981	Murata Manufacturing Co., Ltd.	Electric & Electoronics Equipment
23	7203	TOYOTA MOTOR CORPORATION	Transportation Equipment
24	7267	HONDA MOTOR CO., LTD.	Transportation Equipment
25	7751	CANON INC.	Electric & Electoronics Equipment
26	7752	RICOH COMPANY, LTD.	Electric & Electoronics Equipment
27	8001	ITOCHU Corporation	Wholesaler
28	8002	Marubeni Corporation	Wholesaler
29	8031	Mitsui & CO., LTD.	Wholesaler
30	8053	SUMITOMO CORPORATION	Wholesaler
31	8058	Mitsubishi Corporation	Wholesaler
32	8591	ORIX CORPORATION	Finance & Insurance
33	8604	Nomura Holdings, Inc.	Finance & Insurance
34	9432	NIPPON TELEGRAPH & TELEPHONE CORPORATION	Communications
35	9437	NTT DoCoMo, Inc.	Communications
36	9766	KONAMI CORPORATION	Communications

Source: eol database (http://www.eol.co.jp/e/service/01.html)

It is expected that using IFRS can improve accounting quality. If Japan accepts IFRS as well as Japanese and U.S.GAAP, SEC rule companies might start for discussing about the introduction of IFRS, particularly companies financing in the big 3 markets, Japanese, U.S. and EU. And then they could disclose of their financial statements based on IFRS, a single set of accounting standards worldwide. Indeed, is it can

achieve high-quality accounting?   Webster and Thornton (2004) compares earnings quality between the US and Canada and attribute enhanced earnings quality in Canada to its principle-based accounting standards. IFRS and Japanese GAAP are principle-based in the difference with U.S.GAAP, a rule-based. This paper based on the several researches, trys to evaluate the quality of the earnings of Japanese companies using SEC rules.

3. Research Design

3.1. SEC rules vs. Japanese GAAP

In this paper, the other 36 companies are chosen by the same industry and approximate scale as SEC rule companies. An average total asset (ave.TA) is used as the measurement of the scale. Referred to TABLE 5, the *Japanese GAAP companies* are verified as the SEC rules companies by F-test analysis of variance.

TABLE 5. Japanese GAAP Companies in Japan (N=36)

No.	Security code	Company Name	Industry
1	2284	ITOHAM FOODS INC.	Foods
2	3569	SEIREN CO., LTD.	Textiles
3	3730	MACROMILL, INC.	Communications
4	4812	Information Service Int'i-Dentsu	Communications
5	4902	KONICA MINOLTA HOLDINGS, INC.	Chemicals
6	6305	Hitachi Consruction Machinery Co., Ltd.	Machinery
7	5445	TOKYO TEKKO CO., LTD.	Machinery
8	6504	FUJI ELECTRIC HOLDINGS CO., LTD.	Electric & Electoronics Equipment
9	6506	YASKAWA Electric Corporation	Electric & Electoronics Equipment
10	6581	Hitachi Koki Co., Ltd.	Electric & Electoronics Equipment
11	6588	TOSHIBA TEC CORPORATION	Machinery
12	6592	MABUCHI MOTOR CO., LTD.	Electric & Electoronics Equipment
13	6622	DAIHEN CORPORATION	Electric & Electoronics Equipment
14	6737	EIZO NANAO CORPORATION	Electric & Electoronics Equipment
15	6753	Sharp Corporation	Electric & Electoronics Equipment
16	6701	NEC Corporation	Electric & Electoronics Equipment
17	6702	FUJITSU LIMITED	Electric & Electoronics Equipment
18	6724	SEIKO EPSON CORPORATION	Electric & Electoronics Equipment
19	6770	ALPS ELECTRIC CO., LTD.	Electric & Electoronics Equipment
20	6861	KEYENCE CORPORATION	Electric & Electoronics Equipment
21	5201	Asahi Glass Company, Limited	Electric & Electoronics Equipment
22	6954	FANUC LTD	Electric & Electoronics Equipment
23	7201	NISSAN MOTOR CO., LTD.	Transportation Equipment
24	7261	Mazda Motor Corporation	Transportation Equipment
25	7731	NIKON CORPORATION	Electric & Electoronics Equipment
26	7701	Shimadzu Corporation	Electric & Electoronics Equipment
27	8015	TOYOTA TSUSHO CORPORATION	Wholesaler
28	8012	NAGASE&CO., LTD.	Wholesaler
29	8035	Tokyo Electron Limited	Wholesaler
30	8088	IWATANI CORPORATION	Wholesaler
31	8051	YAMAZEN CORPORATION	Wholesaler
32	8585	Orient Corporation	Finance & Insurance
33	8601	Daiwa Secruities Group Inc.	Finance & Insurance
34	9433	KDDI CORPORATION	Communications
35	9984	SOFTBANK CORP.	Communications
36	6841	Yokogawa Electric Corporation	Communications

Source: eol database (http://www.eol.co.jp/e/service/01.html)

3.2. Measurements

The SEC rule companies tend to be more efficient in the capital cost, because of the company size. If arbitrary application of IFRS is admitted

in the United States and Japan, some of them would choose the U.S.GAAP or IFRS. The Japanese GAAP companies would keep using Japanese GAAP approved the equivalence or change IFRS. We put the year ending March 2007 (FY2007) with the boundary changing something for Japanese and U.S.GAAP. FY2007 is the year when CESR has announced the technical advice for the equivalence of the third country. It is assumed that there are some effects given to the market favorability of Japan and U.S.GAAP.

First, we use Earnings persistence to measure earnings quality (Francis et al., 2005). Earnings persistence captures the permanence of earnings from one period to the next and it is estimated by regressing current period earnings on prior period earnings. Higher earnings persistence is considered a characteristic of higher earnings quality. Our review of the prior research suggests that persistence is expected to be increasing in growth (Collins and Kothari, 1989 and Francis et al., 2002). The persistence model is as follows:

$$EARN_{it} = \alpha 0 + \alpha 1 EARN_{it-1} + \alpha 2 MB_{it} + \alpha 3\ (EARN_{it}\text{-}1 * MB_{it}) +$$
$$\alpha 4 STANDARD_t + \alpha 5\ (EARN_{it-1} * STANDARD_t) +$$
$$\varepsilon_{it}\dots\dots\dots\dots\dots\dots\dots\dots\dots(1)$$

Where:

EARN is income before extraordinary items scaled by average total assets (ave.TA)

MB is the market to book ratio

STANDARD is an indicator variable equal to one if a company prepares the financial statements based on the SEC rule or IFRS (response to the single set has already been effective) and zero otherwise.

Second, we use accrual measurement to measure accrual quality. We follow Dechow and Dichev (2002) and Francis et al. (2005) to estimate a proxy for accrual quality that is commonly used in the literature. The total current accrual model is as follow:

$$TCA = \alpha_0 + \alpha_1 CFOi_{t+1} + \alpha_2 CFO_{it} + \alpha_3\ CFO_{it-1} + \alpha_4\ \Delta SALES_{it} +$$
$$\alpha_5 PPE_{i,t} +$$
$$\varepsilon_{it}\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(2)$$

Where:

TCA is total accrual and can measure with the equation as follow:

ΔCURRENT ASSET$_{it}$-ΔCURRENT LIABILITIES$_{it}$-ΔCASH$_{it}$+ΔSHORT

TERM DEBT$_{it}$

CFO is operating cash flow

ΔSALES is the year to year change in sales

PPE is gross level of property, plant and equipment

All variables are scaled by average assets in year t.

Equation (2) is then estimated annually on a cross sectional basis for each of Fama and French's (1997). The firm specifc resuduals from the estimation are used to form the accrual quality metric. Specifically, the firm specific accrual quality metric equals the standard deviation of the residuals for each firm.

Following Dichow and Dichev (2002) and Francis et.al. (2005), we expect that accrual quality is negatively associated with smaller firms, greater cash flow variability, longer operating cycles and reporting of losses. Finally, an indicator variable taht capture the effect of accounting standard is included.

Our accrual qualitu model is as follows:

$$SD\_AQ_{i,t} = \alpha_o + \alpha_1 LNASSETS_{i,t} + \alpha_2 SD\_CFO_{i,t} + \alpha_3 SD\_SALES_{i,t} + \alpha_4 LOSS_{i,t} +$$

$$\alpha_5 STANDARD_t +$$

$$\varepsilon_{i,t}\dots\dots\dots\dots\dots\dots\dots \dots\dots\dots\dots\dots\dots\dots\dots(3)$$

Where SD_AQ is the standard deviation of the residual from the annual estimation of equation (2) for each industry. LNASSETS is the natural log of total assets, SD_CFO is the standard deviation of cash flow operations. SD_SALES is the standard deviation of sales. LOSS is an indicator variable equal to one if earnings before extraordinary items is negative and zaro ottherwise. STANDARD is an indocator variable equal to one if the year identified standard is effective and zero otherwise.

4. Sample Data and Hypotheses

4.1. Sample Data

The data is collected in the eol database[425] in Japan from the annual reports of companies listed on the first and second sections of the Tokyo Securities Exchange (TSE). As of March 2008, there is consolidated accounting data is for 1,474 companies on TSE section 1. First, this paper chooses the data of EARN, MB, and TA on the 36 Japanese companies using the SEC rule (SEC rule companies). Secondary, we suppose that the other group is compared with the group of SEC rule companies in the equivalent sector and scale. The group is composed with Japanese 36 companies which prepare their financial statements on the Japanese GAAP. They are called Japanese GAAP companies as TABLE 5 shown. The data set of two groups with different standards of accounting is handled by the dummy variable named STANDARD as one data set.

For Indonesia sample we use Non-Financial Public companies that has listed in LQ 45 from 2002 to 2008. We prefer to use LQ 45 firms because they have good market performance and their stock is liquid. We first eliminate observations that lack lagged data and non-December year-ends. We eliminate non-December year-ends to simplify identification of when specific standards. We eliminate extreme value observations in the persistence and valuation samples consistent with prior research. Extreme observations are defined as share prices, book value per share, or earnings per share exceeding $1,000 per share in the

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[425] The eol is a service by eol Inc. that archive contains all the "Yuhos" for every publicly traded company (more than 4,000 firms) and roughly 1,000 privately-held companies in Japan. Yuho is required for all listed and unlisted companies all listed companies and all unlisted companies with a sufficient level of capitalization to file a semi-annual report commonly by the Japanese Government .(Refer http://www.eol.co.jp/e/service/01.html)

valuation sample. The availability of *IDX* data and variables to construct our accruals measures are the most restrictive constraints in forming our samples resulting in the forecast and accrual quality samples being the smallest. We also eliminate the firms which not consistently in LQ 45 during observation period (2002-2008). So, for Indonesian sample there were 36 firms, and the detailed of the firms' name as below.

TABLE 6. Indonesian Samples

No.	Security Code	Companies name	Industry
1.	AALI	Astra Agro Lestari	Agriculture
2.	ANTM	Aneka Tambang	Mining
3.	ASII	Astra International	Automotive
4.	BLTA	Berlian Laju Tanker	Transportation
5.	BNBR	Bakrie & Brothers	Investment
6.	BTEL	Bakrie Telecom	Telecomunication
7.	BUMI	Bumi Resources	Mining
8.	CPIN	Charoen Phokpand	Basic Industry
9.	CPRO	Central Proteinaprima	Basic Industry
10.	ELTY	Bakrieland Development	Property
11.	ENRG	Energi Mega Persada	Mining
12.	INCO	International Nickel Indonesia	Mining
13.	INDF	Indofood Sukses Makmur	Consumer Goods
14.	INKP	Indah Kiat Pulp & Paper	Basic Industry
15.	ISAT	Indosat	Telecommunication
16.	KIJA	Kawasan Industri Jababeka	Property
17.	MEDC	Medco Energi International	Mining
18.	PGAS	Perusahaan Gas Negara	Mining
19.	PTBA	Tambang Batubara Bukit Asam	Mining
20.	SMCB	Holcim	Basic Industry
21.	TBLA	Tunas Baru Lampung	Agriculture
22.	TINS	TIMAH	Mining
23.	TLKM	Telekomunikasi Indonesia	Telecommunication
24.	TRUB	Truba Alam Manunggal Engineering	Infrastructure
25.	UNSP	Bakrie Sumatra Plantations	Agriculture
26.	UNTR	United Tractors	Services
27.	ITMG	Indo Tambangraya Megah	Mining
28.	LPKR	Lippo Karawaci	Property
29.	LSIP	PP London Sumatera	Agriculture
30.	AKRA	AKR Corporindo	Trade
31.	BISI	Bisi International	Agriculture
32.	DEWA	Darma Henwa	Infrastructure
33.	MIRA	Mitra Rajasa	Transportation
34.	MNCN	Media Nusantara Citra	Media
35	SMGR	Semen Gresik	Basic Industry
36.	SGRO	Sampoerna Agro	Agriculture

4.2. Hypotheses

The first hypothesis verifies what effect of convergence process for IFRS brings the quality of earnings in consideration of the increase of IFRS implementation. The application of arbitrary or mandatory IFRS is discussed in the U.S. and Japan where national GAAPs are evaluated to be equivalent with IFRS. If achieved, Japanese firm that makes financial statements based on the SEC rules might apply IFRS. Or, the SEC rule might be keeping.   Japanese firm might change from current Japanese GAAP to IFRS. Anyway, they can make decisions about applicable accounting standards. On the other hand, stake holders would feel better their financial statements on the high-quality U.S. GAAP or Japanese GAAP by equal to IFRS. That means their earnings must be persisting with higher-quality. The following hypothesis (1) consists. That is,
H1: The persistence of earnings keeps by high-quality standards of accounting.

To verify this, we use a multiple regression model composed by five independent variables (STANDARD, a dummy variable contained). If the effect of $EARN_t$ extends to $EARN_{t+1}$, it means the higher quality of earnings continues. In addition, it is expected that the higher quality of accounting standards advance, the more the market valuation will improve.   The difference of earnings quality by the choice of accounting standards would get smaller.
The second hypothesis concerns the quality of accrual. It is assumed that the operating cash flow (CFO) would influence the quality of accrual, if the persistence of earnings quality remains. Hypothesis (2) is:
H2: The operating cash flow improves the quality of accrual by higher-quality of accounting standards.

This hypothesis is proven by sample data (N=70 for Japan firms, N= 252 firm years for Indonesian sample) application to research design (2). The multiple regression model composed of six independent variables

verifies the impact of the operating cash flow to the quality of accrual (TCA) by the proxy variable generally used. This paper uses the characteristic that the quality of TCA is related negative in the smaller-scale firms and the cash flow changes more greatly. TABLE 7 shows the scale of Japanese GAAP companies are smaller than SEC rule companies. Therefore, the more the difference of those scales loses, the more the operating cash flow influences positive for accrual. That is, it is inferred that a negative effect of the operating cash flow would improve.

TABLE 7. Mean of EARN, MB and Ave.TA

	FY 2008 (t+1)			FY 2007 (t)			FY 2006 (t-1)		
	EARN	MB	Ave.TA	EARN	MB	Ave.TA	EARN	MB	Ave.TA
SEC rule firms	-0.067	5.590	5,771,777	-0.067	4.683	6,047,366	-0.068	2.340	5,550,431
Jap.GAAP firms	-0.182	1.305	1,879,085	-0.191	2.257	1,767,183	-0.168	0.470	1,606,634
IFRS Indonesian firms	1.260	1.511	18,602,888	1.255	1.825	20,657,334	1.262	2.254	23,296,250

In the persistence model for EARN, sample data is fitted into a multiple regression model composed with 5 independent variables, $EARN_{t-1}$, MB_t, $EARNt-1*MB_t$, $EARN_{t-1}*STANDARD$, STANDARD. The analysis is used in two periods, FY2007 and 2008. The sample data fitted in the equation (2) is excluded the data of not only Nomura Holdings, Inc, SEC rule companies but also The Daiwa Securities, Japanese GAAP companies. The quality of accrual (TCA) is verified in the equation (2) with 70 firms. Basically, this paper treats the same period about March and December ending FY. It is expected that the impression of Japanese and U.S.GAAP in the market would get better after the CESR announcement, remarkably appeared since EC approval on December 2008.

5. Results and Implications

In the TABLE 7 and 8, there are several implications shown concerning the hypothesis. The SEC group's Mean of income before extraordinary items scaled by average total assets (EARN) are lower

through three years than Japanese GAAP companies. It is found that SEC rule companies are influenced by severe U.S. GAAP, a rule-based regarding the lower EARN. The market to book ratio (MB) and ave.TA of SEC rule companies exceed Japanese GAAP companies in all fiscal year. For instance, the Mean of MB and ave.TA of SEC rule companies in 2008 is bigger as the other group. Moreover, the Mean of MB_{t+1} is 5.590, about 4 times compared with the Mean 1.305 of Japanese GAAP companies. MB shows how many times the stockholders' equity (net assets) on measured the corporate value (aggregate market value). The market evaluates the capital efficiency of the enterprise. It is likely to be used as an investment standard by which the corporate value is measured. Therefore, it means that the increase of Mean MB_{t+1} of SEC rule companies from 2.340, the Mean MB_{t-1} contributes the rise of those corporate value. F-test is effective for verifying the difference between both groups.   It is found that each F value of MB_t, MB_{t+1} are statistically significant at the significance level 1% in TABLE 8. Obviously, there are some differences in the market valuation of SEC rule companies compared with Japanese GAAP companies.

There were some steps before Japanese and U.S.GAAP have been evaluated the equivalence of IFRS. CESR, an advisory panel of EC, has published two or more drafts to approve the equivalence between IFRS and accounting standards of the third country. We suppose that the evaluation might give one of good news in the market to Japanese firm prepared their financial statements based on the Japan or U.S.GAAP. And it is assumed that the CESR announcement of the equivalence is effective specifically on SEC rule companies, Because of their representing scale in Japan, they would have more incentive to finance in the financial market named Tokyo, New York, London. Therefore, IFRS would be willingly replaced from the SEC rules, if it is officially admitted in Japan.

TABLE 9 verifies the outcome of two models. Obviously, the persistence of the earnings has been proven. The numerical value of the result shows the following two significant points. One is that $EARN_t$ and

EARN $_{t+1}$ have been influenced from EARN before one term respectively. In the persistence model, the two independent variables, EARN $_{t-1}$ (earnings before one term) and EARN $_{t-1}$*STANDARD $_t$ (one that the dummy variable by the difference of the standard multiplied by the profit before one term) are statistically significant in 0.1% level for EARN $_t$. That means the difference of earnings quality by the choice of GAAPs. In addition, t values of the two independent variables, MB $_t$ and EARN $_{t-1}$*MB $_t$ are significant in 5% level.   The other is that the influence of the independent variable for EARN $_{t+1}$ with the data of nearer closing year gets smaller.

According to the comparison, the independent variable, EARN $_t$ is significant in 0.1% level.   However, it was not significant for the independent variable, EARN $_t$*STANDARD $_t$ by which the dummy variable by the difference of standards of accounting multiplied.   Two independent variables related to MB are statistically significant in 5% level.   This result appears no difference of earnings quality by the application, because U.S. and Japanese GAAP have developed higher-quality.   In the equation (2), the quality of accrual was evaluated by using the business cash flow.   As a result, a negative effect was confirmed as for CFO $_{t-1}$ and CFO $_t$. Oppositely, CFO $_{t+1}$ has changed in the effect of the plus.   It is assumed the one factor that the difference in the scale of between SEC rule companies and Japanese GAAP companies became smaller.   Those implications are proven usefully for hypotheses 1 and 2.

The convergence of accounting standards aims at making of higher-quality international standards. It is clear that the development have seen in the case of Japanese firms in this study.   Both of U.S. and Japanese GAAP have already raised the quality of earnings and the favorability in the market valuation. A worldwide expansion toward IFRS results in improving the reliability of the third country (U.S. and Japan, at least). The attempt to a single set of "International accounting standards" leads in the convergence process that accounting standards progress in each country.   The higher quality of earnings in financial statements persists when higher-quality accounting standards exists. There is a meaning in

above all can endure financial statements user's indication needs. This paper has some limitation for the number of sample data. The data set of Japanese companies applying SEC rules (U.S.GAAP) is just only 36, while selected the other Japanese firm based on the Japanese GAAP by the scale.   It is necessary to develop this study, improving the data.

TABLE 8. Difference of SEC rule and Jap.GAAP Companies

	Mean	Deviation	F-statistics
$EARN_{t+1}$			
SEC rule	0.0679	0.0020	0.0083
Jap. GAAP	0.1821	0.2413	-
$EARN_t$			
SEC rule	0.0670	0.0003	0.0086
Jap. GAAP	0.1917	0.2727	-
$EARN_{t-1}$			
SEC rule	0.0677	0.0012	0.0592
Jap. GAAP	0.1684	0.1965	-
MB_{t+1}			
SEC rule	5.5893	659.316	1,019.755[**]
Jap. GAAP	1.3047	0.6465	-
MB_t			
SEC rule	4.6874	260.650	87.742[**]
Jap. GAAP	2.2567	2.9706	-
MB_{t-1}			
SEC rule	2.3404	5.7440	0.0322
Jap. GAAP	0.4704	178.445	-

[*]$p<0.05$, [**]$p<0.01$

TABLE 9.   Persistence and Accrual Quality

Coeffcients	Persistence 07EARN	Persistence 08EARN
$EARN_{t-1}$	40.572***	36.132***
MB_t	-2.305*	0.571*
$EARN_{t-1}*MB_t$	-2.148*	-0.227*
$EARN_{t-1}*STANDARD_t$	-13.042***	-1.752
$STANDARD_t$	4.594*	1.307*
Mean adj.R^2	0.988	0.995
Degrees of Freedom	66	66

Coeffcients	Accrual Quality
CFO_{t+1}	3.140**
CFO_t	- 2.730**
CFO_{t-1}	- 2.278*
$\Delta SALES_t$	- 1.073
PPE_t	1.306
Mean adj.R^2	0.385
Degrees of Freedom	64

*p<0.05, **p<.0.01, ***p<.0.001

For Indonesia case there is different approach that we conducted. We use different method for Indonesian case because for Indonesia, we want to know the effect of several standards that has align with IFRS on earnings quality. So, we investigate the effect of each standard on persistence and accruals quality. The results for Indonesia sample show in TABLE10 and 11.

We identified twelve accounting standards for our study for Indonesian samples and focus on the period before and after each accounting standard. However, more than one standard became effective in certain years. In this situation, we jointly consider all accounting standards implemented during a year as one event. We therefore

investigates The effect of IFRS implementation on earnings quality with Indonesian sample use accounting-based measures: persistence, and accrual quality. We first consider the accounting standard's incremental effect on persistence (the interaction of prior period's earnings and the accounting standard variable). Equation (1) is estimated for each accounting standard and we report the results in TABLE 10. The mean adjusted R^2 for the persistence model is 45.5%. The estimated coefficient for the incremental persistence is significant for each of the eleven accounting standards. However, there is no consistency as to direction; the overall mean is not significant.

TABLE 10. Persistence Model

$$EARN_{i,t} = \alpha_0 + \alpha_1 EARN_{i,t-1} + \alpha_2 MB_{i,t} + \alpha_3 (EARN_{i,t-1} * MB_{i,t}) + \alpha_4 STANDARD_t + \alpha_5$$
$$(EARN_{i,t-1} * STANDARD_t) + \varepsilon_{i,t}$$

_____
_____

Standard (s)	Persistence Coefficient
PSAK 13, 30	0.1194 ***
PSAK 14, 26	0.1173 ***
PSAK 16, 51, 58	0.0467 ***
PSAK 19, 46, 55	0.0578 ***
PSAK 24, 38	-0.0531 ***
Mean accounting standard coefficients	0.0133
Mean adjusted R ^{2}	45.5%
Number of Standards with Significant Positive Coefficients	6

* / ** / *** significant at the 0.10 / 0.05 / 0.01 level.

Variables are defined as follows: EARN is income before extraordinary items scaled by average assets, MB is market-to-book ratios, and STANDARD is an indicator variable equal to one if the year identified standard (that align with IFRS) is effective and zero otherwise.

Second, we examine changes in accrual quality. We estimate equation (2) and report

our results in TABLE 11. The mean adjusted R^2 is 42.5%. Eight of the eleven estimated coefficients for the accounting standard effect are significant; five of which are positive. Overall, the mean effect is significant and positive (1.9279, p-value < 0.10) indicating decreasing quality. Combined, the overall evidence is that the accounting standards are associated with decreasing accounting quality (lower accrual quality). These results do not support our hyphoteses but consistent with the FASB's increased focus on the balance sheet where more variability may then be introduced to the income statement.

TABLE 11. Accrual Quality Model

$$SD\_AQ_{i,t} = \alpha_o + \alpha_1 LNASSETS_{i,t} + \alpha_2 SD\_CFO_{i,t} + \alpha_3 SD\_SALES_{i,t} + \alpha_4 LOSS_{i,t} +$$

$$\alpha_5 STANDARD_t + \varepsilon_{i,t}$$

_____

Standard (s)	Accrual Quality
PSAK 13, 30	6.1209 ***
PSAK 14, 26	1.2278
PSAK 16, 51,58	2.4909
PSAK 19, 51, 58	13.373*
PSAK 24, 38	-23.5200 ***
PSAK 19, 51,58	13.3731 *
Mean accounting standard coefficients	1.9279 *
Mean adjusted R^2	42.5%
Number of Standards with	
Significant Positive Coefficients	8
Significant Negative Coefficients	3

* / ** / *** significant at the 0.10 / 0.05 / 0.01 level.

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ACCOUNTING CONSERVATISM AND FUTURE BAD NEWS: THE CASE OF SINGAPORE AND PAKISTAN

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Abstract

This study investigates the benefits of accounting conservatism to the share holder. In particular, this study examine whether higher levels of conservatism are associated with lower levels of future bad news. To address whether conservatism leads to lower likelihood of future bad news, this study examine the association of accounting conservatism with 1) likelihood of future earnings decreases, and 2) likelihood of future dividend decreases. The sample consist of all non financial firms that listing in Singapore and Pakistan stock exchange with December fiscal year ends over the 2005-2007 time period, and the data available on OSIRIS database. We find evidence that higher level of accounting conservatism is associated with lower likelihood of future dividend decreases.

Keywords: *conservatism, future bad news, future earnings decreases, future dividend decreases*

1. Introduction

Investors and potential investors in the firm's securities demand information, not only on the firm's past financial performance and its net assets, but also on its expected future performance. (e.g., its future cash flows). However, there are limits to the extent to which management-provided information can be credible. As information becomes less verifiable, it becomes easier for the manager to manipulate and less credible making it less useful to investors. If accounting cannot solve the problem of reducing information asymmetry by providing unverifiable information, how does conservative accounting reduce information asymmetry between equity investors? Two potential mechanisms suggest themselves. First, conservative accounting could well provide the best possible non-stock price "*hard*" summary information on current performance for uninformed investors. Second, that hard information provides a benchmark that makes it possible for alternative "soft" sources to generate credible information on unverifiable gains (LaFond and Watts, 2007).

The conservative principle, defined as the more timely recognition of

unrealized losses vs. gains in annual earnings, has characterized for centuries

the practice of accounting reporting (Basu, 1997). Watts (2003) and others

argue that conservatism helps in corporate governance (specifically in

monitoring firms' investment policies). We hypothesize that if conservatism

reduces managers' ex ante incentives to take on negative NPV projects and

improves the ex post monitoring of investments, firms with more conservative

accounting ought to have higher future profitability and lower likelihood (and

magnitude) of future special items charges. We find that firms with more

conservative accounting have (i) higher future cash flows and gross margins,

and (ii) lower likelihood and magnitude of special items charges than firms with

less conservative accounting. Our results hold after controlling for industry, firm

size, leverage, growth opportunities, prior special items charges, and stock

returns. These findings are (i) consistent with conservatism mitigating agency

problems associated with managers' investment decisions as predicted by Watts

(2003) and Ball and Shivakumar (2005), and (ii) inconsistent with standard

setters' view that conservatism is not a desirable characteristic in financial reporting.

The understanding of the motivations and determinants of conditional conservatism is central to gaining insights in the role of financial reporting in debt contracting, managerial compensation, firm valuation, and institutional settings. Bushman and Piotroski (2006) show that timely loss recognition is affected by the legal environment. A country with a stronger law and order tradition is likely to have more-developed financial markets and more-effective financial reporting practices. Stronger Rule of Law limits firms' ability to exploit debt holders, and hence could be associated with the development and comparative size of debt markets. In addition, higher Rule of Law could result in more enforcement of timely loss recognition standards. On the other hand, higher Rule of Law could reduce the demand for conditional conservatism due to substitution effects, by the protection it provides to creditors. Conservatism is the differential verifiability required for the recognition of accounting gains versus losses that generates an understatement of net assets (Basu, 1997, and

Holthausen and Watts, 2001). The existing empirical evidence is consistent with

listed firms' financial statements being conservative in the U.S. (e.g., Basu, 1997,

and Watts, 2003) and in other Anglo-American law countries (e.g., Ball, Kothari

and Robin, 2000). This conservatism is attributed to the use of financial

statements in debt and/or compensation contracts, litigation, regulatory and

political processes, and taxes (Watts, 2003). However, many important

questions remain unanswered and more empirical issues need to be addressed.

This study investigates the benefits of accounting conservatism to the

share holder. This issue is particularly important in light of the ongoing policy

debate of whether conservatism is a desirable property of accounting earnings

(Watt, 2003). In particular, this study examine whether higher levels of

conservatism are associated with lower levels of future bad news. To address

whether conservatism leads to lower likelihood of future bad news, this study

examine the association of accounting conservatism with 1) likelihood of future

earnings decreases, and 2) likelihood of future dividend decreases. We find

evidence that accounting conservatism is associated with lower likelihood of future dividend decreases.

This study is important for several reasons: (1) the empirical accounting literature provides strong evidence that debt-holders demand higher levels of conservatism in order to reduce potentially negative impact of agency conflicts arise between borrowers and lenders. However, whether greater levels of conservatism have impact on share holder wealth is an open empirical question. Two opposing explanations of the role of conservatism in share holder wealth exist: a) conservatism is beneficial to shareholders, and b) conservatism is potentially harmful to shareholders because it decreases firms' information quality. (2) Conservatism is one of the attributes of accounting quality. Conservatism is also one of the major reasons for international differences in financial reporting, thus this study also examine the comparison of the association accounting conservatism and future earnings bad news in Singapore and Pakistan, where financial reporting environment and accounting legislation is different significantly.

The rest of the paper is structured as follows. Hypothesis development is provided in Section 2. Research design is presented in Section 3. Result is provided in Section 4 and Section 5 Conclusions and limitations of the paper.

2. Hypothesis Development

2.1. Earnings Conservatism Literature

The seminal paper by Basu (1997) started the stream of research on earnings conservatism. Such institutional factors as contracting, shareholder litigation, taxation, and accounting regulation are reported to affect the level of conservatism (Watts, 2003). Ball, Kothari and Robin (2000) examine the effect of institutional factors on accounting earnings and they present evidence that earnings are considerably more timely in common law countries than in code law countries due to greater earnings conservatism.

Pope and Walker (1999) compare timeliness of gain and loss recognition between UK and USA. Raonic *et al.* (2004) examine the effect of institutional and market complexity on timeliness of income recognition by using cross-listed firms. They emphasize the importance of institutional variables in explaining

international differences in properties of earnings. Their results imply that both capital market pressure and regulatory impact lead to more conservative accounting. Bushman and Piotroski (2006) have extended earlier cross-country research by examining the influence of legal and political institutions on accounting conservatism. Their results indicate that after controlling for legal regime, conservatism is significantly related to a variety of other country-level institutions, such as investor protection, securities laws, political economy and tax regime.

Beatty, Weber and Yu (2008) examine the relation between conservatism in firms' financial reports and conservative adjustments made to reported financial numbers used in debt covenants. If financial statement conservatism and conservative adjustments to debt covenants each serve a similar role in resolving agency problems, then the two types of conservatism should be substitutes. That is, firms that choose greater financial statement conservatism should require fewer conservative adjustments in debt covenants. Alternatively, if financial statement conservatism and conservative adjustments to debt

covenants each have relative strengths and weaknesses in resolving agency

problems in debt contracting, then the two types of conservatism may be

positively related. That is, firms that require greater conservatism to resolve

agency problems in their debt contracting relationships may make more

conservative adjustments to both financial statements and debt covenants.

2.2. Conservatism Determinants

Previous literature (La Fond and Watts 2007; Watts 2003; Ball et al.

2005) suggests five alternative explanations for conservatism in financial

reporting. The first explanation is its use as efficient technology employed in firm

governance. A conservative accounting approach is used to deal with the moral

hazard determined by the asymmetric information, limited liability, and

asymmetric payoffs of the different parties involved in the firms, e.g.

management compensation and debt contracts. The second possible

explanation for accounting conservatism is limiting shareholders' litigations.

Overstating a firm's net assets is more likely to increase the litigation costs for

the firm than understating net assets. Thus, with conservatism, the firm reduces

its expected litigation costs. The third possible explanation is taxation; in profitable firms, conservatism reduces the present value of taxes, thus increasing the value of the firm. The fourth possible explanation of conservatism in financial reporting is standard setters' and regulators' incentives. Both standard setters and regulators are exposed to asymmetric loss functions because they would be more criticized if they adopt accounting standards that favor overstatement of net assets instead of understatement of net assets.

Finally, the fifth reason for conservatism in financial accounting is theoretically introduced and empirically tested recently by La Fond and Watts (2007). They argue that conditional conservatism may serve as a corporate governance mechanism to reduce the information asymmetry among the various parties (managers, shareholders, investors, stakeholders in general) involved in firms' contracts, litigation, taxation, and regulation processes. Much of the information asymmetry arises from the firm's investment opportunity sets, but it also occurs because of the way the firm's management, more informed about events and investment opportunities, formally collects and reports information to

stakeholders. The two common denominator factors in the economic explanation

of accounting conditional conservatism are the asymmetry of both the loss

functions and information sets that characterize the different categories of

stakeholders.

2.3. Positives and Negatives View of Conservatism

Positives view of conservatism. Theory and evidence suggests several

informational benefits of conservatism, such as reducing benefits of earnings

management (Chen et al., 2007), improving information quality (Fan and Zhang,

2008), and signaling managerial private information (Bagnoli and Watts, 2003).

The unifying underlying theme of these studies is that conservatism improves

information quality and thus should reduce information asymmetry between

informed and uninformed investors. La Fond and Watts (2008) and Khan and

Watts (2007) examine the associations between conservatism and firm liquidity

levels and provide some evidence consistent with the idea that decreases in firm

liquidity are followed by increases in firm conservatism.

Negatives view of conservatism. Several studies show the association of

higher conservatism levels with lower earnings persistence. It implicate that if

conservatism reflects contemporaneous bad news more fully, then the likelihood

of future bad news is lower. Basu (1997) shows that bad news of earnings

surprises are less persistent than good news earnings surprises. Roychowdhury

and Frankel (2007) show that greater conservatism levels are associated with

less persistent special items. Per se, lower persistence of earnings of more

conservative firms does not suggest that conservatism negatively affects stock

holders because observed lower earnings persistence could be due to more

complete revelation of bad news. Paek et al. (2007) show that firms with more

conservative reported earnings have lower earnings multiples because

conservatism reduces earnings persistence. Their result suggests that

conservatism introduces noise in the earnings process and thus makes earnings

less value-relevant. However, the implications of this result for usefulness of

conservatism are not necessarily clear. More persistent earnings are associated

with lower uncertainty about firms' future performance, and make it easier for

investors to correctly estimate earnings multiples. At the same time, given well documented results that bad news in general is less persistent, lower earnings multiples are expected for bad news firms. The latter implication suggests that conservatism does not necessarily hurt users of financial information.

Hui and Matsunaga (2004) show that more conservative firms issue less management earnings forecasts. One possible consequence of this result is that overall level of firm disclosure of more conservative firms is lower, thus possibly hurting uninformed shareholders. However, this prediction need not hold true. Recent studies in disclosure literature point out that greater levels of firms' voluntary disclosure have a limited positive effect on firms' cost of capital (Francis et al., 2007), and liquidity (Pevzner, 2007).

Kim and Pevzner (2008) address a question of whether accounting conservatism is beneficial to the stock market. They examine 1) whether conservatism is associated with lower likelihood of future bad news, and 2) whether the stock market reaction to firms' earnings surprises varies with firms' conservatism levels. The result: First, we show that higher current conservatism

today is associated with lower probability of future bad news. Second, find

evidence that the stock market reacts stronger (weaker) to good (bad) earnings

news of more conservative firms. Thus, this study provides additional evidence

that conservatism affects stock prices.

The hypothesis is as follows:

Hypothesis 1: Higher conservatism levels are associated with lower likelihood of future bad news.

3. Research Design

3.1. Sample Selection

We restrict our sample to all non financial firm that listing in Singapore and

Pakistan stock exchange with December fiscal year ends over the 2005-2007

time period, and the data available on OSIRIS database.

3.2. Tests of the Hypothesis

The empirical model of the likelihood of future earnings and dividend decreases,

is the following regression model:

(1) Earn Decr$t+1$= $\beta0$+ $\beta1CONSt$+ $\beta2$ ROAt + $\beta3$ EARNt + $\beta4$ MVEt +et

(2) Div Decr$t+1$= $\beta0$+ $\beta1CONSt$+ $\beta2$ ROAt + $\beta3$ EARNt + $\beta4$ MVEt +et

Where:

Earn Decrt+1 : a dummy variable equal 1 if a firm experienced a reduction in

earnings before extraordinary items in year *t+1* as compared to

year *t.*

Div Decrt+1 :   a dummy variable equal 1 if a firm experienced a reduction

in

dividends per share in year *t+1* as compared to year *t.*

CONSt: conservatism that measure according to Ball and Sivakumar

(2005)& Kim and Pevzner (2008):

coefficient $\beta 3$ from the following regression, multiplied by -1.

$OIt = \alpha t + \beta 1\ D + \beta 2\ OIt-1 + \beta 3\ D*OIt-1 + et$

Where:

OIt is change in operating income in year t deflated by beginning

market value of equity.

OIt-1 is change in operating income in year t-1 deflated by

beginning market value of equity

D is 1 if _OIt-1 is negative and 0 otherwise.

Control variables:

ROA_t : year t return on assets.

$EARN_t$: year t change in earnings before extraordinary items, deflated by

prior assets.

MVE_t: year t size

The hypothesis in this study is test using logistic regression.

4. Results

In this study, we use two proxies for future bad news that is the likelihood

of future earnings decrease and the likelihood of future dividend decreases. We

examine the effects of conservatism on avoiding future earnings decrease,

because the stock market looks upon earnings changes as an additional

benchmark of credibility of earnings news (Dopuch et al. (2003)). Thus,

managers have incentives to avoid earnings decreases as well, and

conservatism could serve as an additional device constraining managerial efforts in upward manipulation of earnings changes.

We also examine the effects of conservatism on the likelihood of future dividend decreases because literature shows that market generally reacts very negatively to such events. Moreover, due to negative effects of dividend decreases on firms' stock prices, Daniel et al. (2007) show that firms manage earnings upward to avoid showing dividend decreases. Kothari, Wysocki and Shu (2006) show that market reacts particularly negatively to the news of dividend decreases. They interpret this result as indicating that managers are more likely to withhold bad news releases relating to dividend cuts. Thus, it is interesting to see whether greater conservatism constrains manager's earnings management behavior and forces bad dividend news "out".

To further investigate the relationship between accounting conservatism and future earnings bad news, the formal test of regression model 1 and 2 are employed. The regression of model 1&2 are estimated using logistic regression.

Table 1 summarizes the empirical result of logistic regression test for all

variable used in our analyses.

Table 1 Empirical Result

	Panel A		Panel B	
	Wald	p-value	Wald	p-value
CONS	0.318	0.197	-0.331	0.041*
ROA	-0.58	0.291	0.0.92	0.518
EARN	0.146	0.111	0.100	0.140
MVE	0.068	0.031*	0.004	0.850
-2 Log L (Block = 0)	826.690		753.774	
-2 Log L (Block = 1)	805.299		748.462	
Chi-Square	14.228	0.006	5.637	0.218
Homers and Lemeshow	26.274	0.01	5.001	0.758

* Significance at alpha level of 5%

Panel A of Table 1 summarizes our results of estimation of equation (1)

for the earnings decreases dependent variable. It is not consistent with our

predictions, CONS, EARN, and MVE are all positively associated with the

probability of future earnings decreases. With respect to control variables,

interestingly, ROA is negatively but not significant associated with future

earnings decreases. This is likely due to the fact that firms with higher ROA

have already experienced significant earnings decreases, and are probably in

loss reversal mode.

Panel B of Table 1 summarizes our results of estimation of equation (2)

for the future dividend decreases dependent variable. Consistent with our

predictions, CONS negatively associated with the probability of future dividend

decreases. It shows that Hypothesis 1 is supported when a dummy variable for

future dividend decreases is used as dependent variable. With respect to

control variables, all are negatively (but not significant) associated with future

dividend decreases. Thus, our results generally support the predictions of

hypothesis 1: "higher conservatism levels are associated with lower likelihood of

future bad news."

Further we investigate the effect of accounting conservatism level on

future earnings bad news for each country, by comparing them. Table II

summarizes the empirical result of each country.

Table II. Empirical Result (Pakistan vs. Singapore)

	Singapore		Pakistan	
	Wald	**p-value**	**Wald**	**p-value**
CONS	6.343	0.023*	0.027	0.992
ROA	0.235	0.336	-0.253	0.189
EARN	57.872	0.024*	0.124	0.026*
MVE	8.082	0.031*	0.369	0.005*
-2 Log L (Block = 0)	342.235		811.412	

-2 Log L (Block = 1)	285.388		765.651	
Chi-Square	0.086		70.846	0.023
Homers and Lemeshow	66.36		65.023	0.018

* Significance at alpha level of 5%

Table II shows that accounting conservatism associated (positively) with the

probability of future earnings declines only for Singapore samples. It doesn't

support the hypothesis 1. Further this study cannot make a comparison the

level of accounting conservatism for each country, because the conservatism

variable for Pakistan doesn't significant at 5% level.

5. Conclusions and Limitations

The empirical results of this study indicate that higher conservatism levels

are associated with lower likelihood of future bad news that is future dividend

decreases. We thus provide empirical support for theoretical predictions that

higher levels of accounting conservatism are beneficial to shareholders. We

argue that information asymmetry between firm insiders and outside *equity*

investors generate conservatism in financial statements. Conservatism reduces

the manager's incentives and ability to manipulate accounting numbers and so

reduces information asymmetry and the deadweight losses that information

asymmetry generates. This increases firm and equity values. Further accounting

conservatism is a governance mechanism that reduces the managers' ability to

manipulate and overstate financial performance and increases the firm's cash

flows and value. It indicates that higher levels of accounting conservatism have

impact on share holder wealth.

Accounting conservatism is also one of the major reasons for

international differences in financial reporting, thus this study also examine the

comparison of the association accounting conservatism and future bad news in

Singapore and Pakistan, but this study can not find evidence that the difference

of financial reporting environment and accounting legislation have an impact to

the association of accounting conservatism levels and the likelihood of future

earnings bad news.

This study has several limitation, that is only use non financial firms that

listed in Singapore and Pakistan stock exchange, thus this study can not

generalize for international context in term of differences in financial reporting

environment and accounting legislation. Further this study only use one proxy of

conservatism, that is conservatism that measure according to Ball and

Sivakumar (2005)&Kim and Pevzner (2008), future research can use a new

measure of conditional conservatism (Gotti, 2008) which results from a Least

Absolute Deviation (LAD) piecewise regression and adopts the number of

changes in financial analysts' EPS forecasts as a proxy for good/bad news about

future earnings and extends the analysis to two-year and three-year time

horizons.

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BOARD INDEPENDENCE, OWNERSHIP STRUCTURE, AUDIT QUALITY AND INCOME SMOOTHING ACTIVITIES

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ABSTRACT

The 1997 economic crisis faced by many East Asian economies has generated

a substantial amount of debate largely focused on issues such as the roles and

functions of good corporate governance (CG). Lack of transparency has been

singled out as the major culprit of the crisis and it has been alleged to cause

management to indulge themselves in unhealthy activities such as income

smoothing (IS) act. The paper extends Nasuhiyah, Hian, Soh and Wei (1994) by

incorporating contextual variables that proxy for CG, ownership structure and

audit quality. The empirical analysis is conducted on a sample of Bursa

Malaysia listed companies for a period between 1991 to 2000. The main

intention of taking this time span is to observe to what extend has previous

business operations inculcated the feature of CG in the running of their

companies activities despite not being obligatory for them yet to uphold. The results showed that the existence of non-executive directors and the presence of brand name auditors to be significant in hindering the management from indulging in IS. The study opens the way for a richer understanding of the links between CG, ownership structure, audit quality and IS in Malaysia.

1.0 INTRODUCTION

The economic crisis faced by many countries including Malaysia, which occurred in 1997, has generated a substantial amount of debate largely focused on issues such as the roles and functions of good corporate governance. Many believed that the weak corporate governance condition had exacerbated the crisis. The crisis would not have been that severe if there was confidence in the ability of large corporations to maintain financial transparency in corporate dealings. Hong Kong is said to experience the least impact as compared to the other Asian capital markets, and this was probably because

of better corporate governance mechanisms that were already in existence at that

particular time (which include more financial disclosures and transparencies) than the

other capital markets in Asia (Tsui and Gul, 2000).

Lack of transparency has caused management to indulge themselves in earnings

management. According to Healy and Wahlen (1999), earnings management, happens

when managers, who are the agents of the shareholders, use judgment in financial

reporting and in structuring transactions to alter financial reports to either mislead

some stakeholder about the underlying economic performance of the company, or to

influence contractual outcomes that depend on reported accounting numbers. One

aspect of the earnings management debate that has received much attention is the

income smoothing (Albornoz and Alcarria, 2003). Income smoothing is a deliberate

acts by the management to reduce income variation by using certain accounting

devices. Besides the less transparent practices, the smoothing behavior is also caused

by the pressure to signal growth and stability to shareholders (Nagy and Neal, 2001).

This paper examines the effects of certain corporate governance characteristics,

ownership structure and external audit quality on income smoothing activities on a sample of Bursa Malaysia Berhad companies. Previous literature quoted on income smoothing are studies that were carried out mostly in developed countries. With this study, which is based on the Malaysian scenario, it is hoped that it could be a form of contribution to the existing literature on income smoothing

This study is an extension to the study done by Nasuhiyah, Hian, Soh, and Wei (1994) that examined factors affecting income smoothing among the listed companies in Singapore. In their study, Nasuhiyah et. al (1994) used company size (total assets), profitability (the ratio of net income after tax to total assets), industrial sectors (industrial and commercial, hotels and properties and others) and nationality (Singaporean and Malaysian companies) as the explanatory variables. This study extends further by adding seven other contextual variables related to corporate governance, ownership structure and audit quality. They are: proportion of independent non-executive directors, chairmanship duality, directors' remuneration, type of auditor (brand name or non-brand name), Chinese controlled companies, institutional investors

and management ownership. The reason for selecting these seven variables is to

observe their impacts, if any, on the income smoothing activities prevailing among the

Malaysian listed companies. The empirical analysis is conducted on a sample of Bursa

Malaysia listed companies for a period between 1991 to 2000. This time period is

observed in order to find out to what extend has companies inculcated the feature of

corporate governance in the running of their business operations despite not being

obligatory for them to uphold. The results showed that the existence of non-executive

directors and the presence of brand name auditors are of importance in hindering the

management from indulging in income smoothing activities.

This paper is organized as follows. The next section describes and discusses on

literature review and hypothesis development. The third section explains the research

design, and the fourth reports and discusses the analysis and findings. The final section

summarizes and concludes.

2.0 LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

What is actually corporate governance? According to Report on Corporate Governance,

Finance Committee (1999), corporate governance is concerned with the process and

structure used to direct and manage the business prosperity and corporate

accountability with the ultimate objective of realizing long-term shareholder's value,

while taking into account the interests of other stakeholders. In most of today's modern

businesses, shareholders merely provide the capital.

Income smoothing, or deliberate voluntary acts by management, in order to reduce

income variation by using certain accounting devices, has been a topic of interest in the

accounting literature. It is said that income smoothing is a logical and rational practice,

as Beidleman (1973) believed that management smoothes income to create a stable

earnings stream and reduce covariance of returns with the market, so as to avoid public

scrutiny and criticism. Currently, there is ample evidence that managers use a variety

of instruments to smoothen the reported periodic streams because they see advantages

in doing so (Copeland,1968).

With due regard to the financial disasters that have sprouted in the developing

countries, such as Lehman Brothers and Enron, it is only wise that the government too,

take up an active role in ensuring proper corporate governance practices are being

adhered to, especially among the listed companies. Malaysian government and many

other related local parties and institutions are taking steps towards enhancing corporate

governance in Malaysia. For instance, in March 1998, there was an effort to create a

good corporate governance environment for the Malaysian corporate sector. High Level

Finance Committee (HLFC) on Corporate Governance has formed an entity known as

the Malaysian Institute of Corporate Governance (MICG). The Institute was

incorporated on 10 March 1998 as a public company Limited by guarantee. The

principal activity of the Institute is to promote and encourage corporate governance

development, education and training for the benefit of its members and other interested

institutional bodies in Malaysia.

The Institute then came out with Malaysian Code on Corporate Governance in

year 2000 with the aim to encourage adequate disclosure by the firms, so as to

provide sufficient information to investors regarding the firm's board

composition and its structures. Compliance with the MCCG is not mandatory but

effective January 2001, part one of the MCCG was incorporated into Part E,

Chapter 15 of the Bursa Malaysia listing requirements in the effort to further

enhance the governance structures among the public listed companies in

Malaysia. It was then revised in year 2007 after taking into consideration the

2008 budget announced by the Malaysian Prime Minister. The main purpose of

the amendments is to strengthen further the roles and responsibilities of boards

of directors and audit committees. It is done in order to assist the investors to

monitor the running of the companies in which they have entrusted their funds.

Followings are the discussions on the hypotheses development for this study:

2.1 Proportion of Independent Non-executive Directors

The separation of ownership and control of the corporate bodies has definitely

introduced new problems in the effective control of top management activities, which

includes amongst others, the income smoothing act. The existence of non-executive

directors (NEDs) in any organization will, in one way or another, hinder the

management from any intention to smooth the reported earnings. This is because the

NEDs, who are not involved in the day-to-day activities, will ensure that the

management will act in a manner that is expected out of them, that is to increase the

shareholders' value. Lai and Tam (2007) reported that NED are effective in monitoring

managers from involving in income smoothing. Thus, it is hypothesized that the

existence of NEDs will hinder the management from indulging in the income

smoothing activities. Given the above discussion and evidence, we are led to the

following null hypothesis:

H 1 : Income smoothing does not depend on the existence of

non-executive directors on the board.

2.2 Chairman Duality

Fosberg and Nelson (1999) stated that firms that use separate leadership in order to control agency problems would experience a statistically significant improvement in performance as it permits clear-cut leadership for purposes of strategy formulation and implementation. This is supported by Farber (2005) who found fraud firms have higher percentage of duality as duality makes it difficult for insecure directors to be honest when evaluating firm performance which, in turn, would lead to long term organizational drift (Carver, 1990).

In contrast, the proponents of duality argue that non-duality would dilute the CEO's power to provide effective leadership of the company by increasing the probability that actions and expectations of management and the board are at odds with each other (Alexander, Fennel and Halpern, 1993). Accordingly the null hypothesis is as follows:

> *H2: Income smoothing does not depend on the existence of duality chairmanship.*

2.3 Remuneration

Remuneration is allocated with the intention of aligning the interest of the managers with that of the shareholders. However, since managers will suffer reputation effects that could result in management's dismissal if their performance is poor, thus they have an incentive to smooth reported earnings by increasing current earnings at the expense of future earnings (Fudenberg and Tirole, 1995). This is proved by Denis, Hanouna and Sarin (2006) who found that firms with both lawsuits and earnings restatements use executive option remuneration more than the matched firms. Cheng and Warfield (2005) also reported a relation between equity incentives and earnings misstatement. Hence, the null hypothesis is as follows:

H 3 :   Income smoothing does not depend on the existence of remuneration scheme

2.4 Institutional Investors

It has been argued that that institutional investors are interested mainly in making quick profits (i.e. short term gains) (Drucker, 1986). Since the institutional investors would withdraw their investment whenever they see a down turn in the earnings made,

thus it is of no surprise that companies that have a large number of institutional

investors would be more inclined to do income smoothing. However, Chung, Firth and

Kim (2005), found that institutional investors are effective in deterring managers'

opportunistic earnings management. Accordingly the null hypothesis is as follows:

H 4 : Income smoothing does not depend on the existence of

institutional investors

2.5 Management Ownership control

Income smoothing activities is said to be significantly associated with management

ownership (Moses, 1987). As a manager's percentage of ownership increases, the

ownership structure of a firm changes from one which is manager-controlled to one that

is manager/owner-controlled. Thus, as managerial ownership increases, there is a

corresponding increase in the manager's discretionary ability to modify the revenue

generating process through the use of accounting policy choice and this is hazardous to

firm performance (Morck et al., 1988 and Chen and Kao, 2005). In contrast, as

managerial ownership increases there is a concurrent increase in the alignment of

manager and shareholder interests (Jensen and Meckling, 1976). Thus, the null

hypothesis is as follows:

H 5 : Income smoothing does not depend on management's

ownership control

2.6 Chinese-controlled companies.

Next we shall look into the impact of having Chinese directors on the income

smoothing practice. This is because, there exists a unique institutional

characteristic of Malaysian Chinese companies, that is the wide-spread

involvement of the owners as the management executives even after companies

go public (Heng, 1992). CheAhmad and Houghton (2001), and Johnson and

Mitton (2003) document a significant relation between ethnicity and audit fees in

the Malaysian market. They suggest that Chinese business practices may

influence differences in levels of agency conflicts and risks associated with

Chinese-controlled companies. This will lead to lower external audit fees

charged to these companies. Accordingly for the purpose of this study, the null

hypothesis is stated as follows:

H6: Income smoothing act does not depend on the presence of

majority Chinese directors of the board

3.7 Auditor

Ability of brand name auditors[426] to constrain earnings management is perceived to add

credibility to the quality of reported earnings (Chia and Lapsley, 2007). Since various

parties use the financial statements of a company for making investment decisions,

thus, auditors' independence is vital in order for them to discharge their statutory audit

duties with greater objectivity and to issue the right opinion about the underlying

financial status of the company. Auditor independence is considered high, if firms are

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[426] Brand name auditors can either be Big-5 (which is comprised of PricewaterhouseCoopers (PwC), Andersen Worldwide (AW), KPMG, Ernst & Young and Deloitte Touche Tohmatsu) or Big-4 (Big-5 excluding AW)

being audited by the international brand name audit firms (Datar, Feltham and Huges,

1991). Accordingly, the null hypothesis is:

H7: Income smoothing does not depend on the existence of the

brand name audit firms.

2.8 Other factors

Whilst the main focus of this study is on the effects of corporate governance

characteristics on income smoothing activities, the other determinants of income

smoothing that were found to be important in previous studies need to be controlled in

the model in order to have a meaningful analysis.

2.8.1 Industry

This point is taken into consideration, in order to observe which industry does income

smoothing the most; the reason being, according to Ronen and Sadan (1981), Belkaoui

and Picur (1984), and Albrecht and Richardson (1990), that companies in different

industries smooth their income in varying degrees. It appears that companies in certain

industries face a more restricted opportunity structure and a higher degree of

environmental uncertainty. Nasuhiyah et al. (1994) stated that companies in

hotel/properties and industrial sectors tend to smooth their income more as compared to

other sectors. Such companies have more opportunity and are more predisposed to

smooth their income.

2.8.2 Company's size

Previous studies found that company size had an effect on income smoothing behaviour

(see Moses, 1987). One explanation is that larger companies are likely to be subjected

to public scrutiny than smaller companies. In other words, larger companies are likely

to receive more attentions from analysts and investors, and thus more is known about

them. Consequently, there is little additional value for a smoothed income signal, and

accordingly larger companies have less incentive to smooth income. The foregoing

arguments suggest a negative association between size and income smoothing.

2.8.3 Profitability

Trueman and Titman (1988) stated that firms that are experiencing healthy profitability

will tend to find larger instruments available with which to smooth. In contrast,

according to Archibald (1967) a high proportion of companies would smoothed their

income when their profitability was relatively low. Presumably, fluctuations in income

streams have a more severe impact on low profitability companies; hence, they have a

stronger motivation to smooth income, as compared to firms that have larger

profitability. In another words, larger-profitability firms have lower involvement with

income smoothing.

3.0 RESEARCH DESIGN

3.1 Measurement of variables

Given the seven (7) null hypotheses stated above, the experimental variables for the

study are non-executive directors, duality, remuneration, institutional investors,

ownership control, Chinese controlled companies and audit quality. The other

independent (control) variables are industrial sectors (industrial and commercial; and

hotels and properties, company's size and profitability.

The dependent variable for the study is income smoothing, as measured by an index.

For this purpose, Eckel's (1981) operationalization of income smoothing is used. (A

good description of this index can be found in the appendix to Albrecht and Richardson

(1990)). This measurement relies on the analysis of income and sales variability as follows:

Income smoothing index = (CV $_I$ / CV$_S$)

Where:

I   = one-period change in income

S   = one-period change in sales

CV$_j$ = coefficient of variation for variable j

              (i.e. j's standard deviation divided by it's expected value)

Income smoothing is indicated by an index of less than 1. Eckel's index is developed specifically as a dichotomous measurement of income smoothing. Thus for the purpose of this study, the sample companies are classified as smoothers or non-smoothers, depending on whether the income smoothing index is less than 1 or more than 1, respectively.

Four possible income smoothing objectives are examined in this study. They are

income from operations, income before tax, income after tax and income attributable to

shareholders.

3.2 Sample selection and source of data

The population of interest comprises companies listed, both on the main board and the

second board, of the Bursa Malaysia Berhad (previously known as Kuala Lumpur Stock

Exchange (KLSE)) as of 31st December 1990. The year 1991 was taken as the initial

year as the study has employed a ten-year time series data collection that is from 1991

to 2000. This ten-year time frame was used by Barefield and Comisky (1972), with the

justification to identify the variability and average absolute growth increments for

companies that have opportunity to do income smoothing. This procedure is consistent

with Moses's (1987, pg. 362) suggestion that multi-period studies capture

achievements of smoothing, whereas one- period studies reflect attempts to smooth. A

total of 161 companies have been taken as samples for the purpose of this study (Please

refer to Table 1).

3.3 Statistical Method

Logit analysis is used in a multivariate setting to investigate the factors associated with

income smoothing. The logit model is considered appropriate because the dependent

variable is a dichotomous variable and the independent variables are either intervally or

nominally measured.

The logit model can be expressed as follows:

$$\text{Smooth}_i = \alpha + \beta_1 \text{NED}_i + \beta_2 \text{DUAL}_i + \beta_3 \text{REM}_i + \beta_4 \text{INST}_i + \beta_5 \text{OWN}_i +$$

$$\beta_6 \text{CCC}_i + \beta_7 \text{AUD}_i + \beta_8 \text{IND}_i + \beta_9 \text{PROP}_i + \beta_{10} \text{SIZE}_i + \beta_{11} \text{PROFIT}_i +$$

$$\varepsilon_i$$

where:

Smooth   = income smoothing status of company where 1 is for smoothers and 0

               for non-smoothers

      (Conclusion can be drawn by looking at the significance and numerical sign (+

      /-) of the regression coefficients)

The details on the definitions for the independent variables are as per Table 2.

4.0 ANALYSIS AND FINDINGS

The results of running descriptive statistics, univariate tests and logit analyses are

reported below.

4.1 Descriptive Statistics

The descriptive statistics of the 161 sample companies are presented in Table 3. These

results indicate the existence of income smoothing practices among companies listed on

Bursa Malaysia Berhad.

4.2 Univariate Test Results

Two univariate tests were conducted for this study. One is the Wilcoxon Signed Ranks Test, while the other is T-test. In the former, the results obtained for DUAL, AUD, IND and PROP, are all very significant at the 0.01 significance level, for all income smoothing objectives. This is indicated in Table 4.

Under the T-test, all the variables, except for NED (H1)and REM (H3), do affect the incidence of income smoothing activities among the listed companies on Bursa Malaysia Berhad boards. Though not all of these income smoothing objectives are affected by each of the independent variables that are included in this study, yet their occurrences in one or more of the income smoothing objectives is sufficient to highlight the fact that each of these variables does have an impact on the income smoothing activities that prevail. To investigate the results further in a multivariate context, logit analyses are performed. The following section discusses the results of the multivariate analysis.

4.3 Logit Analyses Results.

The results of logit analyses are summarized in Table 5 for each income-smoothing objective. In particular, the estimated model beta, the associated significance test results and the holdout accuracy rates of the model are reported.

The logit model for Income from Operations and Profit before Tax as income-smoothing objectives are found to be insignificant with a p-value of 0.845 and 0.791. As can be seen from Table 5 Panel A, at significance level above 0.1 (one-tailed test), only the variables for the industry sectors namely IND and PROP are significant (p-values equals 0.095 and 0.081, respectively). The findings suggest the company in the hotel and property industry would tend to smooth their income more than the Industrial/Commercial industry.

When Profit after Tax is the income smoothing objective, as can be seen from Table 5, Panel C, the resulting logit model is significant with p-value of 0.058. At significance level slightly above 0.05 and 0.1, the null hypotheses for H7 (AUD) and H1 (NED) can be rejected at p-value equals to 0.058 and 0.063 (one-tailed test). All these findings are expected under the hypotheses tested in the study. The NED (H1) variable has a negative sign for the coefficient. This indicates that companies with non-executive directors on the board and having one of the brand name auditors as their external auditor would hinder the management from involving in income smoothing activities.

Finally, when Profit Attributable to Shareholders is the income smoothing objective, the resulting logit model is significant at 0.01 significance level, with a p-value of 0.008 (please refer to Table 5, Panel D). At a significance level less than 0.01 with p-value of 0.003 (one-tailed), the null hypothesis for AUD (H7) can be rejected,. This is followed by OWN (H9), with p-value equals to 0.03. At a one tailed-test, the null hypotheses for NED (H1) and CCC (H6) can also be rejected too, as their p-value are 0.09 and 0.083. All these findings are as predicted under the hypotheses tested in the

study. All the coefficients have a negative sign indicating that companies will not

indulge in income smoothing activities if they have the brand name auditors as their

external auditors, having non-executive directors on the board, their BOD is being

dominated by the Chinese directors and when the management is being influence by the

incentive effect (i.e. the manager's interest is maneuvered so that it is in line with that

of other shareholders' interest)

5.0 IMPLICATION, LIMITATION AND CONCLUSION.

The objective of this study is to identify to what extend can good corporate governance

practices, ownership structure and audit quality hinder the companies from indulging in

the income smoothing activities. Analysis of a sample of companies listed on Bursa

Malaysia Berhad indicates that good corporate governance practices, such as having

independent non-executive directors on the board, separation of chairman and chief

executive officer duties, as well as appointment of external auditors, specifically the

brand name audit firms, among others, do have an impact on the income smoothing

activities that prevail in these companies. As for the factors affecting income

smoothing, apart from the company size, profitability and industrial sectors highlighted

by Nasuhiyah et .al (1994), all except for management remuneration, the univariate and

the multivariate tests results obtained largely support the alternative hypotheses that

have been put forward in this study. The study also found that the model that utilized

income attributable to shareholders as the income smoothing objective to be the best fit

model. The could be due to the fact that income smoothing is most likely to be targeted

at the shareholders.

The above findings can have implications for users of financial statements and

regulatory bodies. In particular, financial statement users should be aware of income

smoothing and the factors affecting such behavior when they rely on financial

statements to help them make decisions. Specifically, users should note the influence of

the independent non-executive directors, chairman-duality and the brand name auditors,

on such behavior. Further, since extensive income smoothing may lead to inadequate or

misleading income disclosure, thus regulators should concentrate their efforts where income smoothing is most likely and most extensively to happen.

There are few limitations that exist in this study. It is appropriate to highlight these potential limitations that should be considered when interpreting the results. They are; firstly, the study does not include companies that are not listed on Bursa Malaysia board, and also those companies that are categorized as financial institutions. The authors justify the former shortcoming, by stating that the companies that are listed on Bursa Malaysia contribute a larger scale to the well being of the country's economy, as compared to those that are not listed on the boards; while for the latter, the author justifies it on the basis that they are governed under different accounting regulations. Secondly, while Eckel's (1981) index identifies companies that artificially smooth their income, it may not identify all companies that attempt to do so.

Thirdly, the companies that are taken into consideration are only those companies that have year 2000 annual report in the Bursa Malaysia website, as well as those

companies that have a complete 10 years' income statement data with the www.klse-ris.com, to enable the calculation of the income smoothing index. And finally, the study may lack external validity in the sense that since it is based only on companies listed on Bursa Malaysia, especially those companies whose companies' websites are available on the Bursa Malaysia website, thus the result obtained may not be applicable in other settings or situations. However, the results obtained from this study could be an additional contribution towards the literature on income smoothing.

This study is by no means completed or comprehensive; there are still avenues that can be further researched. For instance, research can be done on the factors that motivate managers to resort to income smoothing acts, such as in an agency setting, or on the use of various income smoothing objectives and instruments by managers. Further, following the limitations mentioned earlier, future study can also try to come up with improved methods in order to measure or even to detect income smoothing, as well as, to investigate it in different contexts (e.g., different time frame or economic cycles).

In conclusion, it is the authors' hope that with the findings compiled from the study

could be of some assistance to the investors, the rule makers, as well as other interested

parties with regards to financial statements issued by the listed companies. These

affected parties are, therefore, able to take up certain precautionary steps so as not to

be misled by the financial statements which might be a mere window dressing act by

the management executives who may want to save themselves from being scrutinized

or from being dismissed. The regulatory bodies thus are able to decide on the extend to

which income smoothing needs to be monitored and controlled. It is also hoped that

this study could contribute to the existing literature on income smoothing.

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Table 1: - Firms Sample Selection Procedure.

		No. of firms	No of firms
Less	Firms reported on the 1990 Bursa Malaysia Listing		285
	Finance institutions and finance related companies	(19)	
	Firms that do not have annual report web sites for the year 2000	(21)	
	Firms that do not have a complete ten-year record regarding their	(37)	
	Profit and Loss account with the www:klse-ris.com.my		
	Change of accounting dates	(47)	(124)
	Final sample		161

Table 2 : Definitions of Variables

Variable	Measured as	Represented by	Expected sign of relationship
Hypothesis variable			
Independent Non-executive director	percentage of non-executive directors on the board	NED	**-**
Duality	1 for companies with dual chairmanship (duality), and 0 for otherwise	DUAL	+/-
Remuneration	log (total remuneration paid to all executives and non-executives over total sales)	REM	+
Institutional Investors	percentage of the institutional shareholders	INST	**+/-**
Ownership Control	percentage of the management shareholdings	OWN	**+/-**
Chinese-controlled companies	percentage of Chinese directors on the board	CCC	**-**
Auditor	1 for companies audited by the brand name auditors, and 0 for otherwise	AUD	-
Control variable			
Industrial/ Commercial	1 for industrial/ commercial and 0 for others	IND	+
Hotel/ Property	1 for hotels/properties and 0 for others	PROP	+
Company's size	total asset (after taking logarithm)	SIZE	**-**

Profitability	net income after tax to total assets	PROFIT	+/-

Table 3: Descriptive Statistics of Sample Companies Based on Different Income

Smoothing Objectives

Smoothing Objectives	Total sample	Smoother	Non-smoothers
Income from Operations (IFO)	161	95	66
Profit Before Tax (PBT)	161	98	63
Profit After Tax (PAT)	161	95	66
Profit Attributable to Shareholders (PATS)	161	96	65

Table 4: Univariate Test Results

Panel A: t-test

Continuous	t-statistics for Different Income Smoothing Objective			
	IFO	**PBT**	**PAT**	**PATS**
NED (-)	0.304	-0.070	1.183	0.304
REM (+)	-0.324	0.104	-0.038	-0.748
INST (+)	0.666	0.681	1.833**	0.758
OWN (+/-)	0.616	0.355	0.187	1.756#
CCC (-)	0.623	0.130	-0.430	0.623*
SIZE (-)	0.272	-1.268	-1.554*	-0.797
PROFIT (+/-)	1.274	1.903##	2.254##	2.270##

Panel B: Wilcoxon Signed Ranks

Categorical	Wilcoxon Signed Ranks z-statistics for Different Income

Variables	IFO	PBT	PAT	PATS
DUAL (+/-)	-6.328###	-6.325###	-6.254###	-6.325###
AUD (-)	-6.405***	-6.696***	-6.114***	-6.325***
IND (	-5.966***	-6.114***	-5.766***	-6.039***
PROP	-3.952***	-3.628***	-3.801***	-3.579***

***   *Significant at the 0.01 level (1-tailed test)   ###   Significant at the 0.01*

level (2-tailed test)

**   *Significant at the 0.05 level (1-tailed test)   ##   Significant at the 0.05*

level (2-tailed test)

*   *Significant at the 0.10 level (1-tailed test)   # Significant at the 0.10*

level (2-tailed test)

Table 5: Logit Analysis Result

Panel A: Income from Operation (IFO)

1. Logit Model Results

		p-value
H1: Non-executive Directors	-0.215	0.837
H2: Chairman Duality (DUAL)	0.241	0.565
H3 Remuneration (REM)	0.071	0.740
H4 Institutional Investors (INST)	-0.007	0.558
H5 Ownership Control (OWN)	-0.003	0.741
H6: Chinese Controlled	-0.483	0.480
H7: Auditor (AUD)	-0.145	0.731
Industrial/Commercial (IND)	0.553	0.095 *
Hotel/Properties (PROP)	0.593	0.081 *
Company's Size (SIZE)	-0.078	0.803
Profitability (PROFIT)	-0.127	0.381

2. Omnibus Test of Model Coefficients   (Chi-square)   6.403

0.845

3. Classification Results (holdout accuracy rates)

Actual Status	Predicted		
	Smoother	Non-smoother	Total
Smoother	81	14	95
Non-smoother	53	13	66
Total sample	134	27	161
Overall accuracy rates			58.4 %

Panel B. Income Before Tax (PBT).

1. Logit Model Results

Variables	Beta	p-value
H1: Non-executive Directors	-0.030	0.978
H2: Chairman Duality (DUAL)	-0.060	0.886
H3: Remuneration (REM)	0.011	0.957
H4: Institutional Investors (INST)	-0.004	0.737
H5: Ownership Control (OWN)	-0.005	0.546
H6: Chinese Controlled	-0.164	0.812
H7: Auditor (AUD)	-0.185	0.665
Industrial/Commercial (IND)	-0.081	0.845
Hotel/Properties (PROP)	0.433	0.317
Company's Size (SIZE)	0.291	0.364
Profitability (PROFIT)	-0.229	0.278

2. Omnibus Test of Model Coefficients (chi-square) 7.098   0.791

3. Classification Results (holdout accuracy rates)

Actual Status	Predicted		
	Smoother	Non-smoother	Total
Smoother	94	4	98
Non-smoother	57	6	63
Total sample	151	10	161
Overall accuracy rates			62.1 %

Panel C. Income After Tax

1. Logit Model Results

	Beta	p-value
H1: Non-executive Directors	-1.692	0.063 *
H2: Chairman Duality (DUAL)	-0.623	0.149
H3 Remuneration (REM)	0.035	0.873
H4: Institutional Investors (INST)	-0.015	0.238
H5: Ownership Control (OWN)	-0.009	0.321
H6: Chinese Controlled	0.010	0.988
H7: Auditor (AUD)	-0.718	0.058 **
Industrial/Commercial (IND)	0.140	0.747
Hotel/Properties (PROP)	-0.239	0.573
Company's Size (SIZE)	0.311	0.364
Profitability (PROFIT)	-0.545	0.153

2. Omnibus Test of Model Coefficients   (chi-square) 16.725   0.058

                                                                    ##

3. Classification Results (holdout accuracy rates)

Actual Status		Predicted	
	Smoother	Non-smoother	Total
Smoother	81	14	95
Non-smoother	45	21	66
Total sample	126	35	161
Overall accuracy rates			63.4 %

D. Profit Attributable to Shareholders

1. Logit Model Results

	Beta	p-value
H1: Non-executive Directors	-1.530	0.090 *
H2: Chairman Duality (DUAL)	-0.132	0.771
H3 Remuneration (REM)	0.220	0.331
H4 Institutional Investors (INST)	-0.004	0.771
H5 Ownership Control (OWN)	-0.018	0.060 #

H6: Chinese Controlled	-1.016	0.083 *
H7: Auditor (AUD)	-1.403	0.003 ***
Industrial/Commercial (IND)	0.234	0.602
Hotel/Properties (PROP)	-0.018	0.968
Company's Size (SIZE)	0.240	0.498
Profitability (PROFIT)	-0.634	0.129

2. Omnibus Test of Model Coefficients (chi-square) 25.445   0.008 ###

3. Classification Results (holdout accuracy rates)

		Predicted	
Actual Status	Smoother	Non-smoother	Total
Smoother	80	16	96
Non-smoother	41	24	65
Total sample	121	40	161
Overall accuracy rates			64.6 %

*** *Significant at the 0.01 level   (1- tailed test) ### Significant at the 0.01 level*

(2- tailed test)

** *Significant at the 0.05 level (1- tailed test)   ## Significant at the 0.05 level (2-*

tailed test)

* *Significant at the 0.10 level (1- tailed test)   # Significant at the 0.10 level (2-*

tailed test)

DIFFERENCES AND THE FACTORS OF CONVERGENCE OF MANAGEMENT ACCOUNTING SYSTEMS IN DEVELOPED AND LESS DEVELOPED COUNTRIES

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Abstract:

The article focuses on two areas. First part examines the major differences amongst the systems in developed and less developed countries and the rational behind it i.e. inadequate financial resources, weak business structure, poverty, political influence, weak state institutions, difference in taxation and social-economic factors. The second part examines the factors which are motivating and intimidating these two sets of groups to follow the similar management accounting practices i.e. discouraging the system of protection, innovation in IS/IT technologies, normative & mimetic aspect, international strategic alliance and international trade agreements. Organizations operating in LDC's need to understand the pros and cons of each management accounting system considering local as well as international environment before adaptation. There are number of factors which a company needs to confront with like international collaboration, international competition, taxation, socio-ethical issues, technology, political conditions etc. Therefore the companies need to adopt the system which suits the most considering current and future prospects. However the converging factors are seen more active and dominating therefore in coming few years there are more expectation to have similar set of standards of management accounting systems.
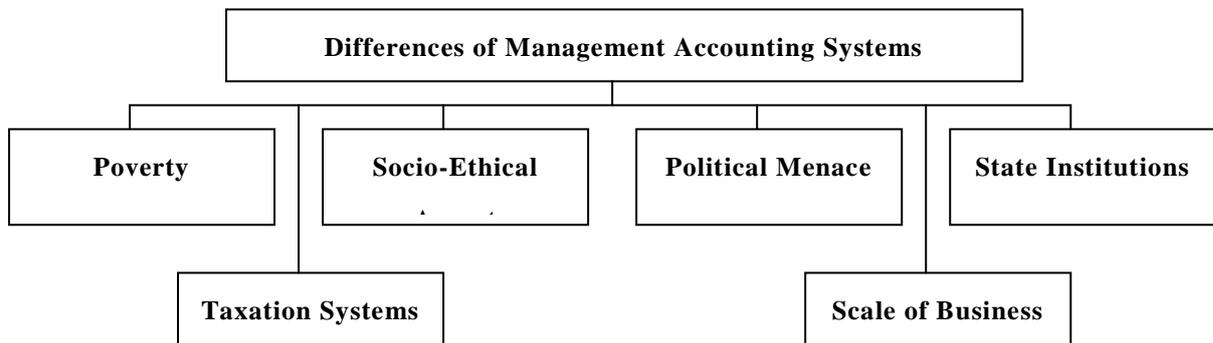
Introduction

According to World Bank, the countries, where the gross net income (GNP) of an individual is lower than \$9,266 per annum are classified as less developed countries (LDC's) or underdeveloped countries. Management Accounting

Systems (MAS) in developing countries may operate differently from those in developed countries (Hopper et al. 2003). It is a valid argument in a way that most of the LDC's have adopted the systems from the developed countries but were unable to take the true benefits claimed and associated with them therefore the desired is to probe the critical factors which become the major ingredients for such failure. The paper is divided in two parts. First part examines the major differences among systems in developed and LDC's and the rational behind it. The second part of the paper looks toward factors which are motivating these two set of groups (developed and LDC's) to follow the similar management accounting practices. The significance of the paper is especially from LDC's point of view i.e. to understand their need to adopt management accounting tools and practices considering local and international requirement and the other motivating factors which they need to underlay before switching to any new MAS.

Differences of Management Accounting Systems

Most of the LDC's (India, Pakistan, China, Korea, Malaysia etc) after having independence pursued modernization and the foot steps of modern civilization through following central state planning and governmental control of the large enterprises (Hopper et al. 2003). The reason for such control is obvious for not having enough financial resources and business structures to support individually. The systems which LDC's have adopted were mostly from developed countries, typically based on computer technology to achieve operational excellence (which is the main theme of adopting automated computer technologies). Other than that another main accounting system, which LDC's have adopted is the budgeting system to keep in control the expenses of the private and public sectors (Pakistan and Indian public departments are the live examples of expense based budgeting systems). The following are number of factors influencing organizations in LDC's for management accounting practices:

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                    ┌─────────────────────────────────────────────────┐
                    │  Differences of Management Accounting Systems   │
                    └─────────────────────────────────────────────────┘
         ┌──────────────┬──────────────────┬──────────────────┬──────────────────┐
  ┌────────────┐  ┌────────────┐     ┌──────────────┐   ┌──────────────────┐
  │   Poverty  │  │Socio-Ethical│    │Political Menace│  │State Institutions│
  └────────────┘  └────────────┘     └──────────────┘   └──────────────────┘
         │                                      │
  ┌──────────────┐                      ┌──────────────────┐
  │Taxation Systems│                    │ Scale of Business│
  └──────────────┘                      └──────────────────┘
```

Poverty:

The poverty is a major factor towards difference in adoption of management accounting tools and techniques. Most of the companies in LDC's do not have enough resources to safeguard there-selves by having various management accounting tools like insurance against unwanted circumstances (natural disasters, theft), inventory buffers (protection against unexpected business transactions), and improvised information systems (to achieve operational and competitive excellence). This lack of appropriate management accounting tools, leave managers with no other choice to take decisions in a traditional way, without considering the market forecasts and competition. In such environment accounting is seen nothing more than a clerical job, just as book keeping. In developed countries the theme of the management accounting system has been changed enormously, where accountants can be seen as a part of the strategic alliance of the firm, and the managers should understand the strategic role of accounting system (Steadman et al. 1995).

Socio-ethical aspect:

Due to lack of capitalists, normally people in LDC's conduct business based on personal relationships or at family terms, which is a very conservative approach towards outside world. This approach is one of the major barriers towards adoption of new methodologies because the company gets estranged from various personnel traits and new emerging talent. Considering the developed countries, now there is almost a multicultural environment in every small to

large size organization. In developed countries these methods work properly due to harmony under government strict regulations.

The literacy and experience level also matters a lot. It ensures the exposure to think and broaden the vision to evaluate what is best in the interest. We can't exercise any kind of modern MAS or policy till then the effective person would be in a position to properly grasp the main theme behind it. To properly run the modern MAS the organizations needs the right exposure to international environment and excellence in previous accounting tools like Japanese organizations, which most of the companies in LDC's don't have.

Political Menace:

Most of the countries from LDC's have weak political structure and are still trap in the black hole of dirty politics. In LDC's the politicians have much influence on business community due to their unwanted interests in different business sectors. This fact is also supported by Al-Eryani (1987) by stating that even the multinational corporations give special attention for having good relations with ruling government in LDC's. Therefore the relationship of business community with ruling politicians gets more importance than the business relations (Hopper et al. 2003).

State Institutions:

Also their have been noticed a lack of appropriate state institutions and other legislative agencies in LDC's due to which they often have a problem of swings in currency fluctuation, commodity prices and other relative issues. In LDC's often there is an environment of uncertainty and risk, which leads to wrong market forecasts, and the remaining is catalyzed by insufficient information systems, which provides less security to creditors and investors. Often there has been evidence of poor financial reporting and taxation due to which several cases of bank frauds and companies defaulted at repayments and some later on (Hopper et al. 2003).

Taxation System:

According to Blake et al. (2003) the taxation rules have a deep influence on the financial accounting in all countries. We do believe that in a country, the taxation system can have an impact on MAS. The management accountants are free to take their own approach to cost allocation issues considering their tax requirements. For example; in Finland tax law requires the stock valuation on variable cost bases. This has been influential in promoting variable costing in the management accounts. From this we can have a very good idea about the major difference in cost allocation amongst developed and LDC's. Usually in UK the corporate tax rate (31%) is far more than eastern countries, this allows different mode of tax treatment in accounting according to different countries. The Chinese government wants foreign investment enterprises to exercise market based cost to secure the interest of local partner from foreign investors (Chan & Lo. 2004), which leads to different taxation treatment in accounts.

Scale of Business:

Most of the organizations in LDC's are at the stage of value chain, where they are trying to achieve the production and operational excellence through automation and by achieving the optimum level at economies of scale (where the benefits can't be capitalized further). Whereas in developed countries most of the large enterprises have already achieved the optimum level (Toyota, BMW, Ford, SONY, GM) therefore to create the margin beyond, they have to adopt the other methods like Just in Time (JIT) in collaboration with Kaizen and then eventually to other systems like activity based costing (ABC) and target costing (TC). The LDC's still have the same old internal approach that first to develop a product and deliver it with considerable margin (push approach), and not from the customer needs perspective or claimed benefits. In a way this approach of LDC's is right because of poverty, where demands of the claimed benefits (associated with the product) are always higher than the supply side, and also the customers don't have the enough financial resources to avail the respective commodity. So in such a situation enterprises usually work on value chain to remove the duplicate process and redundant the over staff to increase profitability (Low wages to temporary and subcontracted workers who were afforded little protection under industrialized relations law). Other than that with

reference to JIT (production where companies usually have kaizen rule by having the same level of quality), in LDC's companies also compromise on quality of products to reduce the cost as minimum as possible (Schmelze et al, Kato, 1993). Normally the government appears to be the central body of control but because of too much political intervention and cultural pressures it becomes almost impossible for the government bodies to properly regulate the policies regarding material, product pricing and other similar issues.

Other than that there are also some other issues like national legislation, religion, corporate cultures etc which could be the main reason for adoption of different MAS practices in LDC's.

Converging Factors towards Management Accounting Systems

Instead of such a big cultural and ethnic differences between developed and LDC's, also there are several motivating and intimidating factors which are working towards MAS's convergence. This section will discuss the factors of convergence of management accounting in detail.

System of Protection and Globalization:

Amat et al. (1994) see the end of the system of protection that had shielded Spanish industry from international competition till the mid of 1970's as a major force for the development of MAS's in Spain. Recently the deregulation of Chinese and Indian markets catches the eyes of big foreign investors. Also the deregulation of banking and telecom sector in Pakistan has seen enormous development. These markets are now become more attractive for investments. Other than that the competitive pressures of a global economy are cited by Bhimani (1996) to explain growing interest in advance management accounting techniques in both Germany and Italy.

Similarly the concept of globalization infuses the whole new life in the international business. Now the companies' territories are no more restricted to some specific geographical areas. The whole world is now in direct competition with each other and converted into a kind of global village, where everyone is trying to give the best and using the top leading quality tools to get the competitive edge (transfer pricing is too common in case of china and India refer to Chan & Lo (2004), similarly target costing in Japan). In Brazil it has been noticed that the industries had led the way in developing the innovative approaches to costing have been those which do not enjoy government protection (Bhimani, 1996) (like in Pakistan the motorcar, textile, and airline industry is protected by government).

Technological Revolution:

The remaining difference is evolved by the fast moving and innovating IS/IT technologies, which are coming in a form of standard and customizable software's based on the leading management tools and concepts. Here I would like to mention the name of SAP application, which is based on International accounting standards. It is one of the fastest emerging application systems for enterprise resource planning (ERP). Recently most of the companies in the east are thinking to adopt this system to coherent their process and methods to

western leading enterprises (mimetic pressure as identified by Lukka & Grunland (1998)). Therefore around the globe companies are now trying to adopt the leading MAS like JIT, ABC, Target costing etc to reduce the cost and to achieve the competitive edge by adopting different generic strategies (Porters, 1985 this idea is also getting vague due to globalization. Now most of the companies are having a mix of strategies e.g. Boeing, P&G, Toyota etc).

International Trade Agencies:

There are also the involvements of some coercive pressures, which are contributing towards the convergence of MAS's. Due to the recent development in 21's century i.e. WTO and other transnational trade agreement like SAFTA, NAFTA etc enforces all the member countries to follow the same kind of trade laws and procedures. This allowed the companies from different territories to come together and trade according to international set standards. For example the letter of credit (LC) is normally used instrument in international trade. Now the banks usually follow the same set of policies and regulations to avoid the trade agreements conflicts. Agreement terms can be different at national level due to cultural, religious and other ethical reasons but at the international level they usually have the similar kind of terms and regulations for the standardization purpose.

Multinational Culture:

The multinational structure and the culture of the mega organizations like Airbus, Boeing, Proctor & Gamble, Toyota, Honda and Unilever etc also demands for the standardization of systems. Multinational organizations emphasis the need for the use of similar kind of accounting tools to all their subsidiaries, this reduces the problem of information integration and system synchronization. Other than that international financial reporting standard (IFRS) also enforces the listed companies to follow the set standard accounting procedures to stop malfunctioning and frauds at external reporting level and secure the confidence of shareholders and other external stakeholders. Other reason being to generate financial reports in a standardize format (IFRS) is to make them understandable to international investors.

Standardize Education and Professional Networks:

From the normative aspect, the recent trends of professionalization of management accountants (consultants) have included the promotion of the similar ideas of cost management (ABC, Target costing etc) and other financial measures such as balance score card, critical success factor etc (Granlund & Lukka, 1998), which are acting as a major contributing factor towards the convergence and implications of the similar management accounting systems. Most of the companies having foreign investment in LDC's are adopting new management accounting tools to acclimatize with new technologies and processes without understanding the business demands.

DiMaggio & Powell (1983) suggested that the two major sources of convergence are; the professional networks and the university education. In universities the similar books and the case studies leads to the similar kind of new emerging management thinking. Other than that the recent educational revolution in eastern world influenced thousands of students from LDC's to study in western universities, this will have a major contribution towards the convergence of management accounting as they will have a similar education background. According to Blake et al (2003) "in the absence of management accounting professional bodies the role of accountancy used to be filled by four ways i.e. 1) trained public auditors and accountants may move into the management accountants role e.g. Institute of chartered accountants of England and Wales (ICAEW) and French Ordre des experts comptables et comptables Agrees (OECCA), 2) voluntary bodies may emerge to discuss the accounting issues like The Spanish Association of Accounting and Business Administration (AECA), 3) engineers may become involve in management issues like in France where the detailed costing provisions in the accounting plan has emerged, under the influence of engineers, the concept of the 'Tableau de Bord', literally an instrument panel, presenting key physical and financial indicators, 4) universities and consulting firms can be important channel for the circulation of management accounting ideas like Belgium". But now due to the international accounting bodies like IFRS and other major

national institutes like CIMA in the UK, IMA in US and AECA in Spain as mentioned before are working more closely to regulate the international standards at macro level. There are still some major cultural and corporate issues which are not yet resolved at micro or national level, which are one of the major sources for divergence in small and medium size enterprises (SME).

Strategic Alliance:

Last but not the least the emerging issue which is contributing heavily towards the convergence of management accounting system is the international strategic alliance (ISA). This tool is not new but the use of it is more common since the last three decades. We have seen a number of large business giants coming together for the same market stake and to get the competitive advantage over their traditional rivals and new emerging challengers (Lorange & Roos, 1991). For-example Sony-Ericsson, HP-Compaq, Toyota-Frontier, Atlas-Honda, and LG etc. Usually companies exercise this tool, when the market gets too saturated and the pace remains the only key to get the competitive advantage. There are also other reasons and benefits associated with the ISA like synergy; getting access to far reach markets, protectionism, experience, competences etc (refer to case study of American and British Law firms Mellahi et al. 2005). As our discussion is related to management accounting system, I feel the joint ventures and alliances increases the need for having the similar kind of management accounting system so that the entire participants can easily integrate the results and systems with their parent company. In the near future we will come to see the major alliances amongst major giants, which will enhance to increase the need for the use of same accounting systems.

Conclusion:

Examining the differences of management accounting systems amongst the developed and LDC's and their implications according to different socio-economic factors, it can be stated as, these factors would become less important and will be discouraged in the future because of growing international business collaboration, but still, there would be some socio-ethical factors

remains, which would contribute towards the divergence of some of the management accounting treatments and systems. The converging factors like globalization, standardized application softwares like SAP, international trade agencies (WTO, SAFTA, NAFTA etc), and other accounting and operating standards like IFRS, would get more regulated and will have more implications eventually. This will enforce the globally accepted set standards and systems in all countries whether they are developed or not. In coming few years we would expecting to have similar set of standards of management accounting systems which will not only enhance the organization ability to understand international environment but also help them to learn the key strategic tools from developed nations. The conclusive statement for organizations operating in LDC's is that they need to understand the importance of each management accounting tool considering local as well as international environment before adaptation. There are number of factors which a company needs to confront with like international collaboration, international competition, taxation, socio-ethical issues, technology, political conditions etc. Therefore the companies need to adopt the system which suits the most considering current and future requirements.

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E-LEARNING MODEL TO OPTIMIZED LEARNING

IN HIGHER EDUCATION

USING DICK AND CAREY DESIGN APPROACH

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ABSTRACT

Nowadays many universities in the world apply technology enhanced learning in order to help learning activities. Due to the potentials that technology enhanced learning offers, recent education using it and universities in particular are trying to apply it. One of the subjects of this research is The Accounting Department of Airlangga University in Surabaya.

Accounting Department as one of many departments in Unair, faces challenges when it comes to implementation of information technology enhanced learning. The idea of this research is to investigate the students about how they deep they know about e-learning system and learning objectives as a first step to conduct e-learning model. The students' answer will be combined with teachers' opinions regarding the implementation of technology information and how they prepare themselves to face e-learning. After the model completed, the next step is to prepare database learning. Entity Relationship Diagram (ERD) can be helped to explain the model.

The purpose of this research was done by using Dick and Carey Design Model. There are nine steps to conduct e-learning model. All steps can be categorized into three steps research: first is the introduction or empirical study, the next step is the design and the last is the feedback after the implementation.

The methodology used in this research is using Qualitative Exploratory, by using questionnaire and interviews as data collection techniques. The questionnaire and interviews were collected from Accounting Students and All professors in Accounting Department.

The analysis of the data shows organization required to need information about e-learning content, user as a learning subject and information technology infrastructures. Before conducting e-learning model, the content must be fullfilled requirement and then must be tested the function of e-learning model and fill the content to complete.

E-learning model as one of the alternative learnings can help users to optimaized learning.

Keywords: E-learning content, E-learning System, Database Learning, Entity Relationship Diagram (ERD), Dick and Carey Design, E-learning model and Optimize learning

CHAPTER 1 — INTRODUCTION

1.1. Background

Information technology (IT) currently plays a critical and strategic role. Application of information technology is omnipresent, such as in economy, business, banking, engineering, social, culture, and so on (Erdani, 2007). Application of technology-based information system is also pervading educational environments, where education principally represents processes of communication and information of educator and the educated. These processes contain educational information with educator as source of information, media as means of presenting idea, educational ideas and materials and educators themselves (Adri, 2008). Educational institutions in Indonesia are currently competing for educational utilization of information and communication technology, construction of hardware infrastructure, the

Internet network development, software procurement, and so on (Arifin, 2007). Educational utilization of information technology is more commonly known as electronic learning or e-learning.

Educational development directed into e-learning is a must (Triono, 2007) and the need for concept of information technology-based teaching and learning is a requisite (Widodo, 2008). It has been believed that improvement of education productivity can be achieved by using information technology (Witanti, 2008). Development of e-learning in Indonesia is only so limited to transfer of e-learning content that communication is only one-way, by which students can download materials of lectures administered by lecturers through web sites of respective universities (Adri, 2008).

Rapid development of information technology supported by sophisticated technology creates opportunities for researchers to find solutions for organization problems. Advances of information system lead to the carrying out of educational researches, such as by Wahid and Suryani in Indonesia and by Kurti in Kosovo.

Research by Wahid (2007) concerned with "Lessons from Implementation of E-learning: Diffusion of Innovation Perspective." The research dealt with analysis of factors influencing adoption and diffusion of Klasiber, a portal of e-learning. Approach employed in this study was diffusion of Innovation Theory developed by Rogers. Those innovations

were *relative advantage*, *compatibility*, *complexity*, *observability*, and *triability*. The purpose of research was to implement e-learning by using *Learning Management Systems (LMS) of Moode open source* subsequently called Klasiber. Object of research was Information Technology Faculty of Universitas Islam Indonesia. Method employed was survey. Results indicated that the above five general characteristics of innovation proved to influence the pace of Klasiber's diffusion and Klasiber, bot by lecturers and students.

Study by Suryani (2007) was more concerned with the development of IT Governance in higher education institutions by referring to standards of COBIT 4.0. Processes of model development started with measurement of maturity of current IT Governance followed by a phase of gap and risk analyses in order to identify IT processes urgent to be implemented. Result was a proposed model of IT Governance sufficiently appropriate to the higher education institution "X" that was the setting of the research. Subsequently, validity test was conducted to the model.

One of recent studies of e-learning was conducted by Kurti (2008) entitled "*Students's experience on eMesimi: an e-learning system in University of Pristhina, Kosovo.*" The research employed Octagonal Model approach as suggested by Khan. The constructed e-learning model was based on three domains: educational, technological, and organizational. The e-learning had been applied in the university of research object, the

researcher being only evaluated its application. Method used was qualitative exploratory method by using questionnaire administered to students and interview to senior and junior lecturers as data collection. Results indicated a difference in viewpoint on e-learning utilization among senior and junior lecturers.

Differences of this study and previous studies can be summarizes as follows:

Table 1				
Similarities and differences of previous studies and present study				
Aspects	**Present study**	**Wahid (2007)**	**Suryani (2007)**	**Kurti (2008)**
Similarity	Equally deal with e-learning as special topic			
	Object of research is higher education institutions			
	Employ qualitative method			
	Use approach of some experts in analysis and construction of model			
Difference	Present study	Wahid	Suryani	Kurti
Purpose	Construct e-learning model	Analysis of e-learning portal	Development of IT Governance model	Evaluation of e-learning model
Process	Dick and Carey Design Model	Diffusion of Innovation Theory by Rogers	Standards of Cobit 4.0	Octagonal Model by Khan
Respondent	Lecturers and students	Students	All element of organization	Students and (senior and junior) lecturers
Result	E-learning model without validity test	Effect of innovation on pace of diffusion	IT Governance model with validity test	Difference in viewpoint of senior lecturers and junior ones on IT utilization

Source: Processed data, 2008

1.2 Problem Statement

Based on the above background, the present research has two statements of the problem, namely:

1. How to construct models of e-learning and database learning?

2. What is e-learning model appropriate to achieve optimal learning in higher education institutions by using Dick and Carey model?

1.3 Motivation of the Study

Abundant opportunities for every education institution to apply e-learning was, in fact, not supported by optimally utilized information technology. Therefore, the faculties need to be prepared to master skills and creativity in developing content of e-learning in order for the learning to be optimal, that is, more interesting, interactive and the content can be absorbed fully by students. In the future, many higher education institutions are expected to be inspired to make e-learning as their excellencies.

1.4 Purpose of the Study

The purpose of the present study is to construct e-learning model appropriate to higher education in order to achieve optimized learning.

1.5 Contribution of the Study

The study contributes to providing an alternative learning model for education where there is no temporal and spatial differences between educator

and the educated. Model of e-learning with Dick and Carey approach can be used in all level of education (elementary, secondary, and higher education).

CHAPTER II — THEORETICAL REVIEW

2.1 Literature Review

There are many terminologies in today's education realm that have nearly the same connotations, namely *web-base learning*, *online learning*, *computer-based learning* and *distance learning* (Effendy, 2005). Electronic learning (e-learning) is a special combination of technology, especially informatics and education (Setiawan, 2005). According to Thompson (2000), "E-learning is instructional content of learning experiences delivered or enabled by electronic technology." He suggested that the most important elements of e-learning are its contents and delivery by using information technology. In addition, Thompson expressed e-learning advantages of capable of providing flexibility, interactivity, speed and visualization through a variety of respective technological advantages. E-learning would be more effectively utilized by using a more extensive computer network of the Internet. E-learning system using the Internet is also called *Internet-enabled learning* (Nurhayati et al. 2008).

Instructional materials are critical factors in developing e-learning materials. Consequently, a basic and clear principle of development is required. In doing so, a principle of Instructional Design can be used

(Setiawan, 2005). Instructional Design is used to design, develop, evaluate, and refine an e-learning for higher education (Siragusa, 2008).

There three (3) criteria for optimal utilization of the Internet technology in delivering learning (Rosenberg, 2001): (1) e-learning is a network with capability of updating, retaining, distributing, and allocating instructional material or information; (2) transmission to end-users through computer by means of standard Internet technology; (3) focus on broadest view on learning behind traditional learning paradigm.

In instructional designs, there are voluminous models that can be used to compose e-learning-based instructional materials (Botturi, et al. 2008; Herridge, 2004). Among those models are (a) Morrison, Ross and Kemp who tend to class orientation, (b) Seels and Glasgow who tend to outcome, and (c) Dick and Carey who do not only orient to class and outcome but also overall system. Additionally, instructional skills in the selected models are required to be applicable to all levels (low, medium, and high). Differences of the three models can be found in **Appendix 1a and 1b**.

In general, model of Dick and Carey underlying this research uses system of outlining overall learning processes in composing smaller parts, starting from determination of instructional purposes to its evaluation (Dick, 1990). Model of Dick and Carey design can be found in **Appendix 2**.

Attitude building in Dick and Carey's model represents learners who are expected to have comprehension before entering e-learning

implementation phase. There are several standard requirements that have to be fulfilled: comprehension, skill, and attitude. Those requirements shall determine their applications of e-learning, from how to plan learning initially, processes, receipt of assignments and examinations, through the final phase of learning evaluation.

Learning objectives are emphasized more on how learning processes are eventually achieved, what forms of those achieved learning objectives, and a variety of conditions such as supported infrastructure, media, learning techniques or methods.

Learning phases are emphasized more on how instructional materials should be delivered by lecturers to students. Student-lecturer interaction plays important role here. Assignment of tasks, quizzes, exams and reception of results take place in learning phases.

The final phase is evaluation performed after the completion of learning processes. Evaluation shall be benchmark of success of learning processes.

2.2 Conceptual Framework

Rationale for the present research followed models of Dick and Carey Design. However, there was a development of the model involving database

as a site of data storage and construction of e-learning model. The Conceptual Framework can be found in **Appendix 3**.

CHAPTER III — METHOD

3.1. Type of Study

The present research used methodology of qualitative approach. Method employed was exploratory research. Research by using qualitative-exploratory approach was extensively carried out to inform an innovation; for example, detailed study of web-based learning environment (Agostinho, 2005).

3.2. Data and Sampling

Data collection in this qualitative-exploratory research used interview and documentation. Detailed technique of data collection can be found in **Appendix 4**. In order to obtain detailed information on what contents of e-learning construction in order for the ideal model to be fulfilled, this research employed lecturers and students of Faculty of Economy of Airlangga University in accordance with criteria of (a) permanent lecturers and structural officials of Accounting Department of Airlangga University, (b) students of Accounting Department of Airlangga University. The use of lecturers and students as respondents for this research was based on a consideration that they were elements in learning processes. They actively

and passively involved in learning processes. The present research employed
purposeful sampling since the purpose of its was to construct an e-learning
model that would eventually be implemented in Accounting Department of
Airlangga University.

3.3. Stages of Research

Based on the abovementioned method and theory, processes of research
aimed at producing an e-learning model could be summarized as follows:

1. Observation stage, important considerations of which were:

    a. What are general learning purposes that would be performed.

    b. Who would be participants of the learning.

    c. What materials that would be delivered to the participants.

    d. What processes that would influence success of learning processes.

2. Model construction stage, consisted of:

    a. Outlining general purposes into smaller learning purposes.

    b. Collecting instructional materials from a various source of experts.

    c. Utilizing Dick and Carey's method in accordance with purposes.

    d. Finding problem samples relevant to materials prepared.

    e. Determining media that would be used in delivery of materials.

    f. Determining who would be involved in learning processes.

    Contents of e-learning collected in the preliminary phase/observation
were then constructed into an e-learning model that would be depicted in the
form of Data Flow Diagram (DFD), a web e-learning mapping. After

construction of e-learning model, the next phase was construction of e-learning database based on contents originated from results of analysis. The database was subsequently assembled by using Entity Relationship Diagram (ERD) and resulted in e-learning database. This database would be a basis in implementing e-learning. The above overall stages could be made into table of input-process-output as can be found in **Appendix 5**.

CHAPTER IV — RESULTS AND DISCUSSION

4.1. Overview of Information System of Accounting Department of Airlangga University

Information system of Airlangga University was interconnected to information systems of respective faculties, one of them was Faculty of Economy of Airlangga University. Information system of Faculty of Economy was employed concomitantly by four departments: Accounting, Economics, Management, and Islamic Economy. Facilities of information system resource of Faculty of Economy, among others, included Internet access terminal, computers for academic activities, bandwidth, and server. Hence, Accounting Department together with other three departments received facilities of information system in order to provide services:

1. SMS for ascertaining academic reports, semester credit units to be programmed, and accumulative number of semester credit units. This

program was available to students by means of cooperation of Faculty of Economy and a cellular phone provider.

2. Hot spot within buildings of Faculty of Economy of Airlangga University capable of being used by all academicians by means of laptop with wi-fi facilities.

3. Inter-computer network available to facilitate process of data collection. The network was equipped with a security system in order to prevent access by other illegal parties.

4. An online study plan programming used by undergraduate students of Accounting in order to program subjects of study.

5. Class lectures using computers or laptops, and LCD where computers in every class had its own server containing instructional materials.

Faculty of Economy as one of faculties with the greatest number of students in Airlangga University certainly needed to contemplate on what strategies that needed to be devised or developed in order to fulfill user demands, including lecturers and students. Indeed, those strategies needed to be initiated from respective units/departments in Faculty of Economy, one of them was Accounting Department.

Rationale for selection of the setting only in Accounting Department was in order to initiate designing e-learning in a smaller scope by utilizing the available university website. Content of e-learning was searched for

completely in order for construction of preliminary formulation when the content was developed in a higher level.

4.2. Data Presentation

Data of the research originated from interviews with lecturers or structural officials in Accounting Department and students of Accounting Department. For the sake of completeness and comprehensiveness of data, questionnaire was administered to permanent lecturers of Accounting Department and students of Accounting Department. Documentation data was also obtained.

4.3. Discussion

The obtained four sources of documentation, namely GBPP, SAP, Syllabus, and Education Manual were closely related to success of learning. For the sake of clarity, discussion was confined to only one subject, Management Information System. Observational results of GBPP, SAP, Syllabus, and Education Manual appropriate to achieving output are summarized in **Appendix 6**. In order for the e-learning to be applied, GBPP, SAP, Syllabus/contract of lectures, and Education Manual needed to be translated into computer language.

In fact, Accounting Department has utilized IT in limited fashion for searching for information and the lecturers possessed their own e-mail addresses for informational exchange with workmates. Results of questionnaire administered to lecturers showed that as much as eight

respondents very frequently used the Internet for searching for information in order to support learning processes. In addition, 91.7% of them possesses e-mail addresses, which was expected to optimize e-learning utilization. Lecturers, administration staff, and students as users were keys to e-learning success. E-learning model was certainly strived for eliminating direct lecturer-student interaction as was in the class. Lecturers were by far used facilities of LCD and laptop to run powerpoint or as aids in delivery of materials. This was based on students' responses of the question of technologies used by their lecturers in the class and their capabilities in operating it.

Infrastructure of Faculty of Economy provided sufficient facilities to students in searching for the needed learning information. Facility of wi-fi in the campus area of Faculty of Economy was extensively used by students to search for lecture materials or other information. Fulfilled requirement of infrastructure resource would facilitate installation to home Web site of Faculty Airlangga University that had already linked to faculties. Web site of Airlangga University has already been used by most students of Accounting Department of Faculty of Economy. About 90.2% respondents have ever visited the Web site and utilized link facilities available in the university Web site. Home Web site of Airlangga University was used by students to browse faculty link, academic link, and departmental link, successively.

Processes of learning currently taking place in Airlangga University were one-way and two-way. One-way process of learning connoted a direct face-to-face interaction of lecturers and students where the lecturers spoke and the students sat down and listened. In two-way process of learning, there was lecturer-student interaction interrupted by discussion. In general, processes of learning were divided into three stages: preliminary planning of the learning, process of material delivery and media involved, and the final stage of evaluation.

Based on analyses of documentation, organizational and user demands, infrastructure and processes of learning, it was known that lecturers and students played important roles in e-learning. In addition, media of delivery and supports of information technology of the Internet complemented the use of e-learning. Stage of designing could be performed after the completion of these analyses.

4.4. Designing of E-learning Model

This stage was initiated by determining content of e-learning. These materials would involve lecturers, administration staff, and students. Content of e-learning can be found in **Appendix 7**. Before the construction

of e-learning model, Data Flow Diagram (DFD) was to be made firstly. This diagram can be found in **Appendix 8** and database of learning.

Data Flow Diagram (DFD) of e-learning explicated lecturer-student interaction in the processes of learning. Database of learning was a storage function in e-learning system that would be made when the e-learning would be implemented.

The Data Flow Diagram (DFD) could be started firstly from lecturers or students, or administration staff. There was no standard rule governing this since all of them were interconnected and interrelated flows of data and information. There three parties that would involve in the processes of e-learning: administration staff, lecturers, and students. Administration staff was responsible for arranging and controlling data input from students and lecturers, including for creating preliminary setting of e-learning. Once the e-learning setting created, the lecturers and students were capable of interaction. In e-learning, lecturers uploaded instructional materials and delivered it to students during the on-line class. Lecturers were also capable of changing desired materials or deleting outdated materials. Additionally, lecturers were facilitated to send questions of exams and their answers with scores to students.

In utilizing the Internet facility, students firstly entered login and password and subsequently downloaded the desired e-learning materials. During on-line lectures, discussion facility or forum group could be utilized.

Answers to questions or quizzes administered by lecturers could also be given. Evaluation of learning was also facilitated by online questionnaire on outcome of learning that could be completed directly by students and the results could also be obtained fast in order for ease of follow-up.
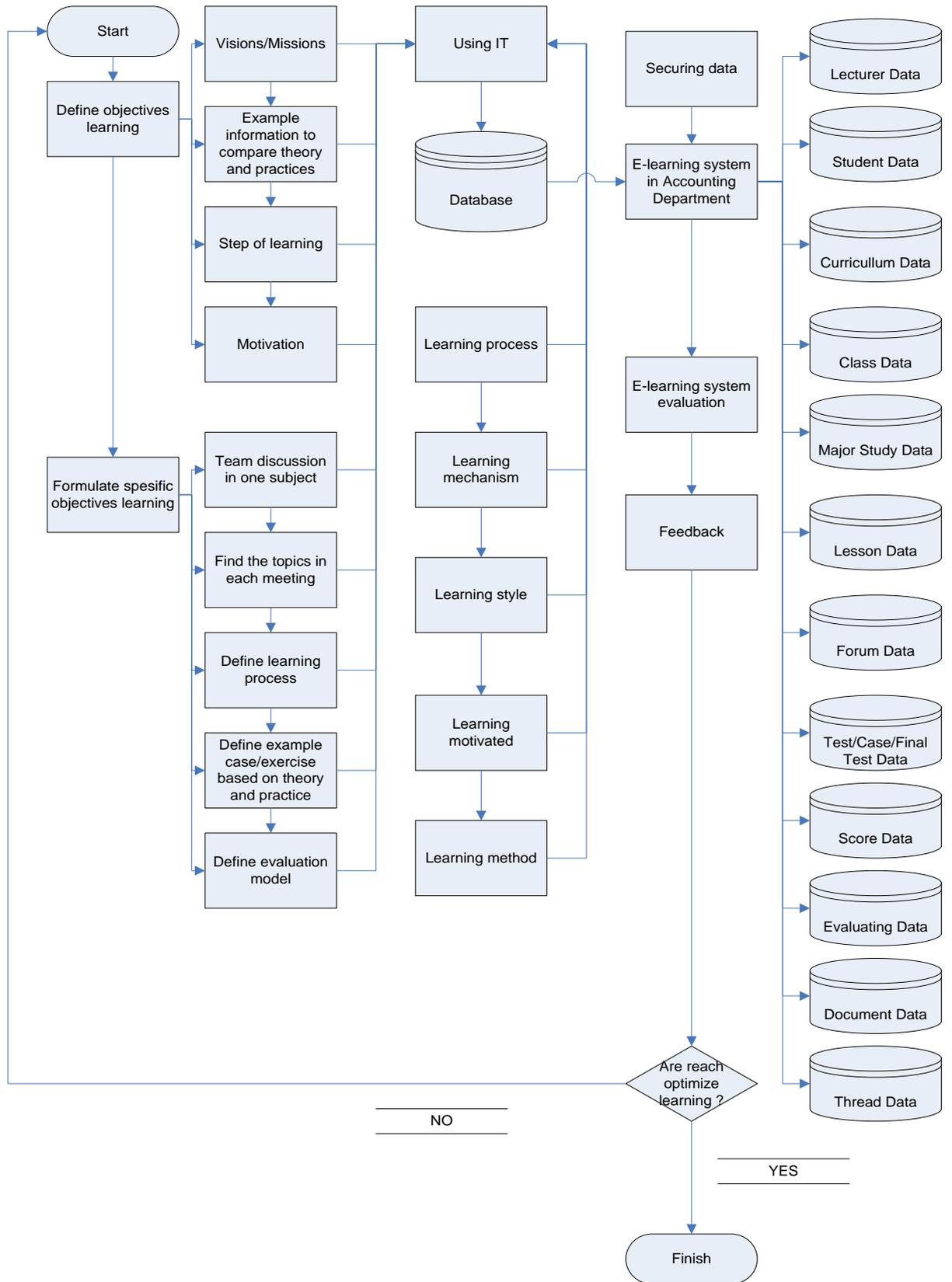
4.5. E-learning Model of Accounting Department of Airlangga University

The constructed e-learning model would be better when it was applied. It needed to be tried out to a small class on certain subject in order to determine whether that constructed e-learning was already appropriate, comprehensible to lecturers and students and in order to supplement or update e-learning contents.

This e-learning model could only be applied to Accounting Department due to adjustments to various demands. As it has been known, every higher education institution had its own characteristic and specificity of resource. E-learning model of Accounting Department can be depicted as follows:

Figure 1

E-learning Model Accounting Department Airlangga University

Based on the above model, there were several stages of e-learning:

1. E-learning-based planning of learning, including the following components:

    (1) Content of e-learning

    (2) System of material delivery

    (3) Lecturer-student interaction

    In planning of learning, content contained arrangements related to objects and materials of learning. These arrangements included:

    (1) Stage of learning, starting with delivery of objectives of the learning, stage of material delivery and closing, including session of learning.

    (2) Delivery of materials of learning in the forms of texts, pictures, videos, audios, simulations, or electronic presentation.

    (3) Interactive activities in the forms of forum groups, teleconferences, face-to-face interactions. Use of e-mail was intended to activate students both individually and in-group and provided latitudes for students to search for sources of learning in the Internet, initiate discussion, generate forums, create blogs, and so on.

    (4) Assignments and tests could be in the forms of study tasks, independent tests, quizzes, exams, and so on.

2. Stage of processes of learning. There several cores of processes of learning, the two of which were:

(1) Finding principal materials of learning. There were several aspects to be prepared first in this stage:

   a. All computers had to be connected to the Internet.

   b. Students had their own e-mail addresses.

   c. Students possessed capabilities to download principal materials of learning.

   d. Students possessed capabilities to edit principal materials of learning and then send it to e-mails of lecturers.

   e. Students possessed capabilities to store the re-sent edited materials into CD or flashdisk.

In brief, the stages of finding principal materials of learning were:

a. In the feature of subjects, there should be entered information on objectives of learning both generally and specifically, and contract of lecture was stated fully.

b. Students downloaded principal materials of learning according to objectives of learning.

(2) Execution of exams. Aspects to be prepared before the execution of exams with e-learning, among others, were:

   a. Lecturers prepared banks of questions in a relatively large number but according to the expected objectives of the learning, so that the questions could be randomized in order for students to have different set of questions. These banks of questions should be

equipped with program of randomization for questions, keys to answers, and scores obtained by every participant.

b. Every student possesses his/her own special number, fox example a registration number, as an identity in addition to his/her name by the time of data entry.

c. All networks were well connected, where banks of questions and supporting programs were stored.

During execution of exams with e-learning, several aspects to be considered were:

a. Students opened their own e-mail, opened questions prepared by lecturers, and completed their personal identities.

b. Students answered questions during predetermined time and then sent those answers to be processed.

c. Students were to receive their scores based on their answers.

3. Evaluation of the learning.

Evaluation of learning was an important part of e-learning success. By means of database of evaluations, it could rapidly be known which elements of assessment required improvement and follow-up. Therefore, in the implementation of e-learning, management system needed to be given attention. The management system consisted of arrangements and monitoring of student tracks and lecturer records, time and schedule of

execution, access to both users and administration staff, prevention of plagiarism, ethic code and maintenance of data.

CHAPTER V — CONCLUSION

5.1. Conclusion and Suggestion

Conclusions that can be drawn from the present research, among others, are:

1. Stages in the construction of e-learning model were initiated by identification of organizational needs, users' needs, infrastructure and processes of learning. In those stages, objectives, participants, techniques of material delivery, media and processes of learning were to be identified. Thee next stage was identification of e-learning needs and then designing of the e-learning. This stage was started by determining contents of e-learning.

2. E-learning model for higher education institutions was different according to their respective needs and characteristics. In constructing an e-learning model, one of approaches that could be used was Dick and Carey Design. The constructed e-learning model only reflected the need for information system of Accounting Department of Airlangga University. The e-learning model was initiated by determination of objectives of learning, then instructional activities involving online discussion, material uploading and downloading, online administration of quizzes and exams and evaluation. Those activities were translated

into computer programs and constantly utilized the Internet in its applications.

Suggestion provided in order to obtain adequate outcomes are:

1. Strategies of direction priority and objectives of learning in Accounting Department need to be re-devised and then executed. Training of human resource and an integrated management information system must be priorities.

2. In addition to lecturers and students as users of e-learning, administration staff is highly desirable for the success of e-learning.

3. Lecturers as main sources of learning were obliged and must have e-mail.

4. E-learning server needs to be supplemented in Accounting Department.

5.2 Implication

The constructed e-learning model shall be used as basis for determining an e-learning model in a higher scope (faculty or university). The e-learning model shall be flawless when it is translated into programming language or software.

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Appendix 1a. Differences of Morrison, Seels, Dick and Carey Design Model

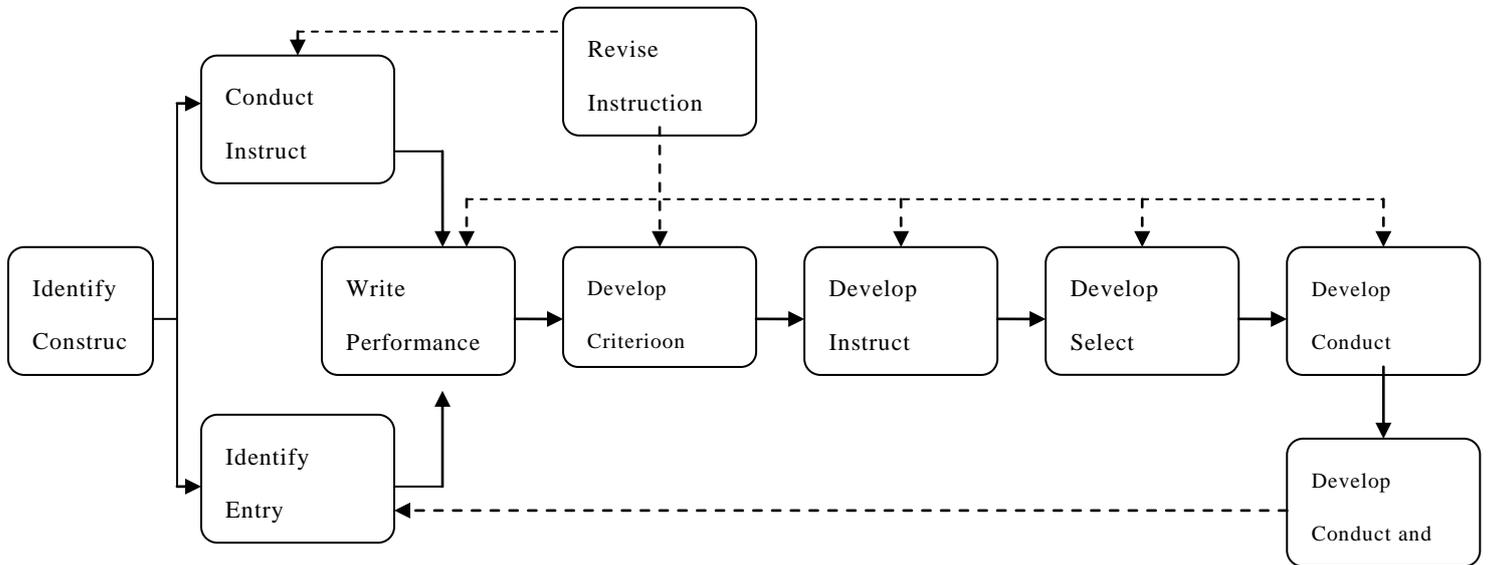|	Morrison, Ross and Kemp	Seels and Glasgow	Dick and Carey
Orientation	*Classroom*	*Product*	*Sistem*
Approach	*Holistic*	*Sistematic*	*Sistemic & Sistematic*
Primary Output	*A few hours of instructiom*	*An instructional package*	*Course or curriculum*
Goal	*Improve a piece of content*	*Improve efficiency of production*	*Create an instructional sistem*
Required level of instructional design	*Low*	*Medium to high*	*Low, medium, high*
Level of front end analysis	*Minimal*	*Moderate*	*Extensive*
Level of formative evaluation	*Moderate*	*Moderate in overall model but extensive in the materials development phase*	*Extensive throughout*
Project management focus	*Strong*	*Strong. This model is organized into three separate project management phase*	*Strong*
Learner focus	*Strong*	*Moderate. Learner characteristics are taken into account during analysis phase*	*Moderate. Learner characteristics are taken into account during analysis phase*

Source: Dick, Walter and James O Carey. 1990. *The Sistematic Design of Instruction*. University of South Florida

Appendix 1b. Comparability of Morrison, Glasgow and Dick Carey Related to E-learning.

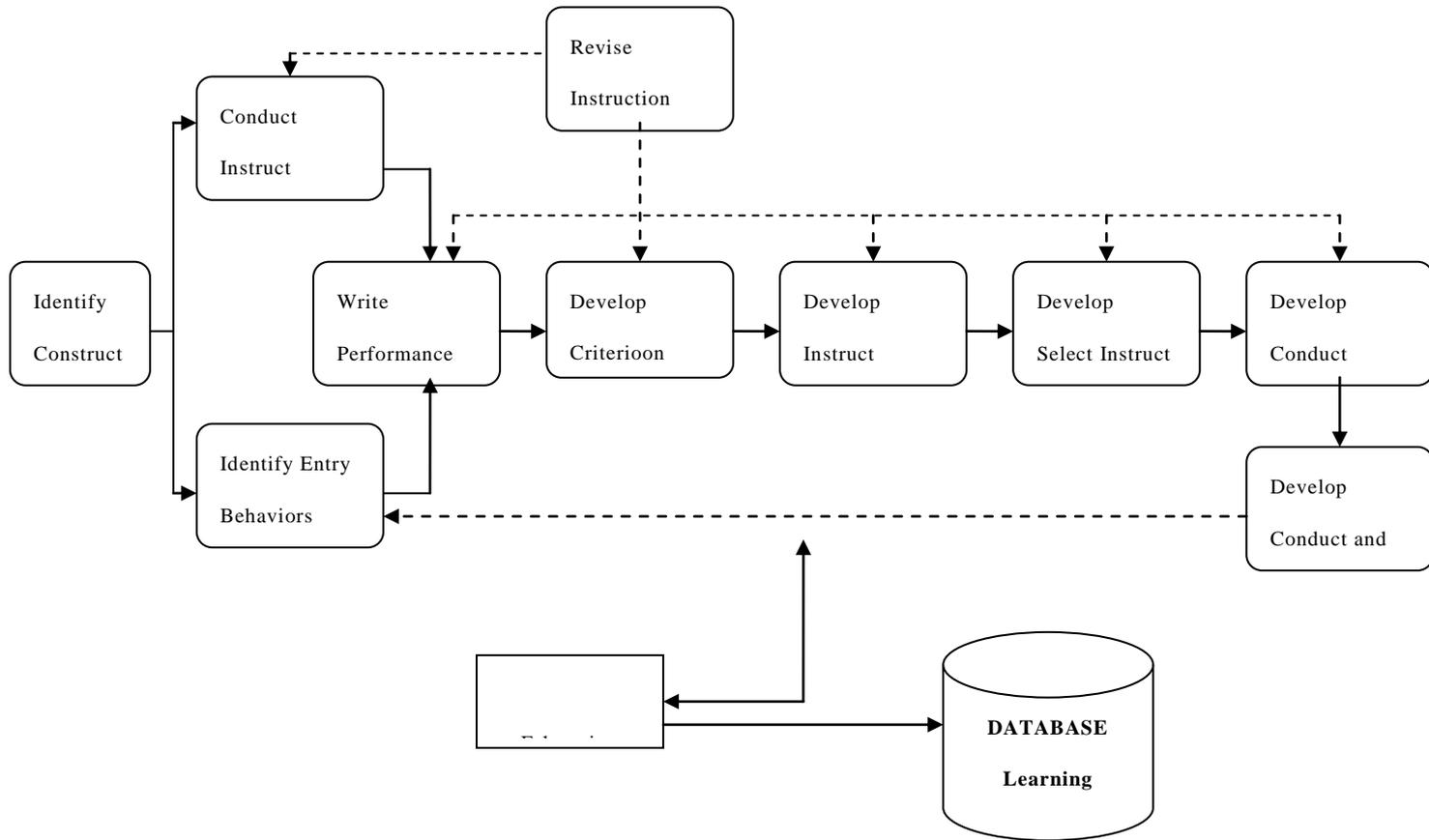|	Morrison, Ross and Kemp	Seels and Glasgow	Dick and Carey
Ability to apply phases steps iteratively	*The design of the model allows for the iterative application of phases and steps*	*Whitin each of three phases the steps can be applied iteratively. There is some flexibility for overlapping the phases.*	*Once the instructional goal has been established the other phases can be applied iteratively*
Focus on instructional strategy & media selection	*This model allows for instructional strategies and media to be selected before the content is analyzed since one can start any phase. However, one can choose to analyze the content first*	*Selection of instructional strategy takes place in some project phase as analysis*	*Media selection is strongly linked to instructional strategies and both are based on learning objectives, context, and contentbeing addressed.*
Structure: positioning and sequencing of content	*All three models contain an instructional strategy step in which diverse options for positioning and sequencing can be considered.*		
Content Design	*All three models have steps or phases in which content design addressed*		
Motivation and feedback	*All three models support motivational and feedback approaches and mechanism. The rigour of the three models may ensure that the required level of detail is available to make solid design decisions.*		
Interaction and involvement	*The level of interaction and the degree of learner involvement are a design decisions that taken in the instructional strategy phase of each of the models. These decisions would then inform decisions related to the selection of instructional media.*		

Source: Dick, Walter and James O Carey. 1990. *The Sistematic Design of Instruction*. University of South Florida

Appendix 2. Dick and Carey Design Model

Source: Dick, Walter and James O Carey. 1990. *The Sistematic Design of Instruction*. University of South Florida

Appendix 3. Conceptual Framework of Research

Appendix **4. Technique of Data Collection**

Technique	Data	Total Respondence	Total Question	Place to collect data
Doccumentation	GBPP, SAP, Syllabus/lesson contract, Undergraduate program book system and Web	-	-	Accounting Department
Interview	Interview with questions list.	3 lecturer of Accounting Department and 2 student of S1 Accounting	25 question to lecturer and 16 question to student	Economic Faculty Airlangga University
Questioner	Questioner with Multiple choices	Spread questioner amount 50 to lecturer and 60 to student	17 question to lecturer and 19 question to student	Economic Faculty Airlangga University

Appendix 5. Table Input-Process-Output to Construct E-learning Model

Step	INPUT	PROCESS	OUTPUT	TOOLS
Introduction	- GBPP - SAP - Syllabus/lesson contract - Web Unair	1. Formulate objectives learning. 2. Define participant of learning. 3. Organization need analysis and infrastructures that related with e-learning implementation	1. Objectives, participant and learning modul. 2. Transfer learning technique. 3. Learning process	- Interview - Doccumentation - Questioner Tools Helping: Interview guidlines, MP3 recorder, Writing tools and Note paper, SPSS 11,5 (descriptive analysis).
Design	1. Objectives, participant and learning modul. 2. Transfer learning technique. 3. Learning process	1. Define e-learning content. 2. Make database learning 3. Construct entity relationship.	1. Content e-learning 2. E-learning Model 3. Database Learning	- Interview - Questioner - Chart/Diagram Tools Helping: Interview guidlines, MP3 recorder, Ms Visio 2003 to make chart,DFD,Diagram, Ms Acsess to design database and SPSS 11,5
FeedBack	Model and Database E-learning	E-learning model trial and test in one subject with assumption that model has been translated to computer software. This research didn't do that.	E-learning applications	Experiment in small class

Appendix 6. Achieved Output of GBPP, Syllabus, SAP and Education Guidelines

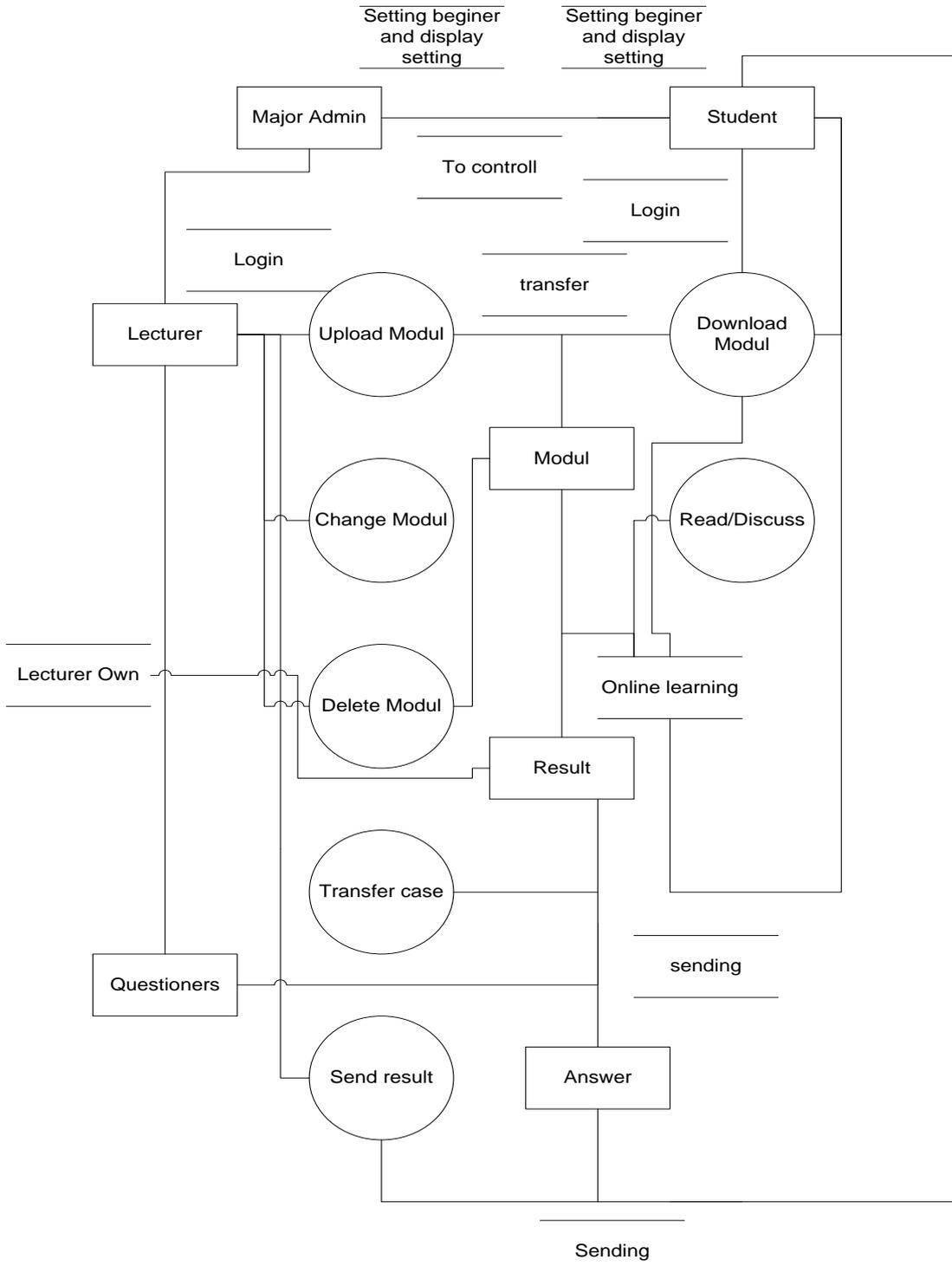| Source	Objectives Learning	Learning Participant	Learning Topic	Transfer Learning Techniques	Learning Evaluation
GBPP (Management Information Systems)	The student will understand about management information systems and ability to making paper based on MIS chapter.	Accounting majority student semester 6 that pass Accounting Information System.	Devided into several chapter in text book and will be adjust with amount of meeting.	Speech , Class, presentation and discussion.	Writing test (middle, final test), Daily examination, discuss, project report, paper, and presentation.
Silabus/ kontrak perkuliahan	Objectives learning that student reach to pass subject.	Accounting majority student semester 6 that pass Accounting Information System.	Summary of SAP	Speech, class presentation and discussion.	Writing test (middle, final test), Daily examination, discuss, project report, paper, and presentation
SAP	Divided into general and specific objectives	Accounting majority student semester 6 that pass Accounting Information System.	Detail and more specific including activity and step of learning.	Speech , Class, presentation and discussion.	Writing test (middle, final test), Daily examination, discuss, project report, paper, and presentation
Undergraduate Student Education Guidlines (Source of information to student and academic staff/lecturer, which more general and complex and adjusted with each department need.					

Source: Processed Data, 2008

Appendix 7. E-learning Content

	E-learning Content
1. Instructional Goal	- Vision of learning. - Objectives learning that student get knowledge to understand and implementation. - Step of learning: make syllabus, SAP, lesson contract,GBPP, media, tools.
2. Instructional Analysis	- Tools to reach objectives learning:forum, discuss, student exercise. - Example based on theory and practice. - Define evaluation method.
3. Entry behavior and characteristics	- Using Information Technology (IT) is not just help tools. - Change learning style. - IT needs. - Challenge IT: Human Resources. - How to fill IT. - IT implementation. - Self motivation.
4. Write performance objectives	- Success of learning: achieved objectives learning
5. Criterion referenced test items	- Lecturer evaluation: questioner - Discuss about case or test
6. Instructional strategy	- Learning method: discuss, textbook. - Change from manual basis to IT - Motivated.
7. Instructional material	Technology infrastructures: internet.
8. Formative evaluation	Student evaluation: middle test, final test, Quiz,
9. Summative evaluation	Learning process evaluation and does it important or not to implementation.

Source: Processed Data, 2008

Appendix 8. Data Flow Diagram

Source: Processed Data, 2008

HARMONIZATION OF ACCOUNTING STANDARDS AND EXTENSION OF EXTENSIBLE BUSINESS REPORTING LANGUAGE (XBRL)

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Abstract:

XBRL is a language based on XML for the electronic communication of business information. It is designed to improve the exchange, aggregation and analysis of corporate data requiring disclosure, through a unique tagging structure that provides interoperability. But the proliferation of a multitude of XBRL taxonomies, based on different accounting principles, can risk the objectives of harmonization, comparability and reusability of the information that is sought with XBRL. It is there fore essential to develop harmonization accounting standards as a unique foundation on which the XBRL taxonomies can be established, so that it becomes possible to compare the financial information originating from various countries. Along these lines, harmonization of accounting standards can be created to establish a common ground for international firms and create a platform that would enhance the benefits of XBRL. This paper investigates the importance of accounting standards harmonization in extension of XBRL.

Key words:

Harmonization – Extensible business reporting language (XBRL) – Extensible markup language (XML) – Standards

Introduction:

XBRL (Extensible business reporting language) is a commercial branded language, based on XML, dvised with the aim of establishing standardized protocols for the transmission of accounting information

through the internet. Currently, it is being promoted by the consortium XBRL international, which groups around 450 companies and organizations committed to extending the use of a standard taxonomy globally. XML is a meta language; in other words, it represents metadata that are essentially data about other data. These metadata play a fundamental role in facilitating the search for information on the internet. On this latter point, Alimohammadi (2003) notes that the internet lacks the necessary structure to allow users to rapidly find the information that they need, and metadata provide a possible solution for better organizing and retrieving digital information. Accordingly, XBRL as an adaptation of XML to the business world should allow financial information to be managed more effectively and efficiently.

The principal components of XBRL are the items and the taxonomies. An item is a fact that makes reference to the entity that issues information by means of XBRL and a" taxonomy" is a set of elements that allows several different items of information to be represented in an XBRL document. These items can be associated with the auditing, elements of the financial statement themselves, and accounting policies. Each of this groups is included in a different taxonomy; some of them are universal in scope, while others are specific to nations or regions and allow the requirements of the accounting regulations in each environment to be represented; that is, they are in accordance with different sets of generally accepted accounting principles. At first sight, these adaptations may seem an advantage, but in reality they represent an impediment for achieving the full, comprehensive expansion and application of the standard. There fore, if the bases on which the XBRL taxonomies rest are different, users will not be able to compare the financial information corresponding to companies from several countries. A possible solution to this problem is the development of a toolset capable of translating the financial statements prepared under a set of accounting principles into another one. Along these lines, the IASC foundation XBRL team is developing theories and mechanisms to compare taxonomies and to signal equivalent concepts. However, this toolset is still under development (Eccles et al.,

2001; Jensen and xiao ,2001), Unless a different approach is adopted, the objectives of harmonization, comparability and reusability of information that XBRL is intended to achieve will be put at risk. It is essential to develop a set of accounting principles and standards of universal character that would make possible the comparison of the financial information originating from many different countries.

The concept of accounting standards harmonization

Accounting harmonization is defined as "a process of increasing the comparability of accounting practices by setting limites on how much they can vary. Harmonized standards and free of logical conflicts, and should improve the comparability of financial information from different countries" (choi, frost & meek, 2001, p291). Accounting harmonization is a process leading to the ultimate goal of increasing comparability of financial information across national borders.

Accounting harmonization is a multi faceted concept, containing at least three components of accounting harmonization (choi et al., 2001): 1) harmonization of accounting standards, which deals with measurement and disclosure; 2) harmonization of disclosures made by publicly traded companies in connection with securities offerings and stock exchange listings; and 3) harmonization of auditing standards. Countries with very similar accounting standards may not be comparable for reasons well beyond the similarity of the respective accounting standards. It is possible to have a situation of only apparent accounting harmonization if the standards are relatively similar, but if either the culture of compliance or the system of enforcement is inadequate.

Development of an operational measure of accounting harmonization is a complex issue. Two sets of accounting standards may be "in harmony" but may apply different sets of rules to the same situation since each national set of accounting standards allows degree of choice of treatment. Scholars (canibano & mora, 2000) note there are two forms of harmonization: de jure and de facto harmonization. De jure, or formal

harmonization, refers to the harmonization of regulations. De facto or informal harmonization, refers to the actual accounting practices of corporations. De facto and de jure harmonization can each be broken down into two components. The degree of disclosure and measurement criter: This results in four forms of accounting harmonization: 1) de jure measurement harmonization, which concerns regulations governing what is disclosed, 2) de jure measurement harmonization, which concerns regulations governing how reported quantities are measured, 3) de facto disclosure harmonization, which concerns what corporations actually disclose; and 4) de facto measurement harmonization, which concerns how corporations actually measure quantities.

The concept of accounting convergence

Recently, the term" accounting harmonization" has at times been by the term "accounting convergence "this term has been defined as:

The process pursued by the international accounting standards board(IASB) of eliminating the present differences between national accounting standards and the avoidance of future differences to achieve international accounting harmonization (Hussey& ong,2005, p.229)

In this sense, accounting convergence is a process that occurs at the standard setting level intended to achieve a state of de jure accounting harmonization. It is possible to measure de jure harmonization by focusing on the range of choices provided by various accounting standards.

If we consider measurement as a system of assigning numbers to qualities of an object, we can consider a set of accounting standards as rules for measuring aspects of the financial condition of an organization. If the two measuring systems are equivalent, they should produce the same set of accounting numbers. For example, if U.S accounting standards and IFRS were equivalent, then net income reported under

U.S accounting standards and net income reported under IFRS should be the same.

If the two sets of accounting numbers are different under each set of accounting standards, then the measuring instruments are not equivalent. If the two sets of accounting standards are becoming harmonized over time, then it is likely that the numbers purporting to measure the same quality (e.g. net income) of an organization would be moving closer over time. This is the meaning of the term convergence.

XBRL and opportunities and challenges

XBRL (Extensible business reporting language) is the XML based solution being developed for business information reporting. XBRL uses XML based data tags to describe financial and other business information to facilitate external and internal reporting by companies. XBRL is an open specification, which means any one can develop applications using it, and is freely licensed in order to encourage wide acceptance.

XBRL is expected to create significant benefits for all participants in the business information supply chain. Examples of the potential uses of XBRL include:

- Internationalization of capital markets and external reporting.

- Important to emerging markets to assess global capital markets.

- Trust and creditability of financial information.

- Important to market transparency and timely reporting.

- XBRL links accounting with non accounting information.

- Preparation of financial statements for statutory and other purposes.

- Analyses of financial information (e.g. equities research, investment management,. . .).

Despite the clear benefits that XBRL provides for the business information supply chain, its current usage is very limited. In order for XBRL to be deployed success fully on a universal basis a number of requirements must still be met, including the following:

- Common specifications need to be developed. Although taxonomies need to be tailored to meet the requirements of particular industries or jurisdictions, all specifications should cue a similar (XML based) framework.

- Software applications that automate tagging of information with XBRL tags need to be developed.

- Style sheets that can produce information in various different reporting formats need to be created.

Accounting standards harmonization and extension XBRL

XBRL is a language based on XML for the electronic communication of business information. It is designed to improve the exchange, aggregation and analyses of corporate data requiring disclosure, through a unique tagging structure that provides interoperability. Nowadays, there are many different XBRL taxonomies, based on different national accounting regulations. At first, these adaptions may seem an advantage but, actually, they represent an impediment for achieving the full, comprehensive expansion and application of the standard. If the bases on which the XBRL taxonomies rest are different, users will not be able to compare the financial information corresponding to companies from different countries.

A possible solution to this problem is the development of toolset expable of translating the financial statements prepared under a set of accounting principles into another one. Along these lines, the IASC foundation XBRL team is developing theories and mechanisms to compare taxonomies and to signal equivalent concepts. However, this toolset has not been developed yet. Therefore, in order to fully exploit the capabilities of XBRL, it seems essential to create a common set of global accounting standards with the objective of facilitating the comparison firms from different countries (Eccles et al., 2001). Only under the presence of such standards could the efficiency of XBRL be brought to exceed the desired levels.

the treatment of certain transactions, as for example the **negative goodwill** *or the* **extraordinary items** *or again* **the minority interest in the income statement.** *The taxonomy is very flexible. It does not require the data to be presented in any specific order. Its only aim is to provide a complete list of the elements and the relationships between them.*

XBRL "tags" individual items of data and in doing so enables them to be recognized and processed by different kinds of software, rather than simply tagging a block of information as is the case with the presently used HTML coding. "Taxonomies" are the dictionaries utilized by XBRL. They define the specific "tags" utilized for the individual elements of data (as for example "net profit"). The various taxonomies differ for the different countries and different business sectors and are generally prepared and managed at the national level. Many countries, in fact, have developed their taxonomies based on their own accounting standards, which are then recognized by XBRL international and made available for consultation on the organization's official site.

The reporting terms used in financial reporting, the relationships between terms and the structure of a report can be expressed using XBRL. In this way XBRL is much more than merely a simple grouping of data and relative tags. In particular, the taxonomies are constituted by a "schema" and various "linkbases".

The schema is substantially the container of the definitions of the various elements. These definitions go to form a tree structure (or taxonomy) that determines and links the various elements in the various reports. The linkbases, in turn, are constituted by a series of "links" that provide further information regarding the individual elements by linking them to one another and to further information sources (labels in various

2505

common patterns of financial reporting, elements for "structural completeness" (such a sub total), and elements required specifically for XBRL specification.

Expansion forms of XBRL

1- Expansion of XBRL for different processes:

As Fig.1 illustrates, the XBRL steering committee is expecting to expand the XBRL specification in other related financial domains. The box labeled "XBRL for financial statements" presents the initial XBRL activities.

External financial reporting to external parties is, however, only one aspect of XBRL. The standard also has the potential to be used for tax filings or for other regulatory purposes, such as reports to the regulators of financial institution.
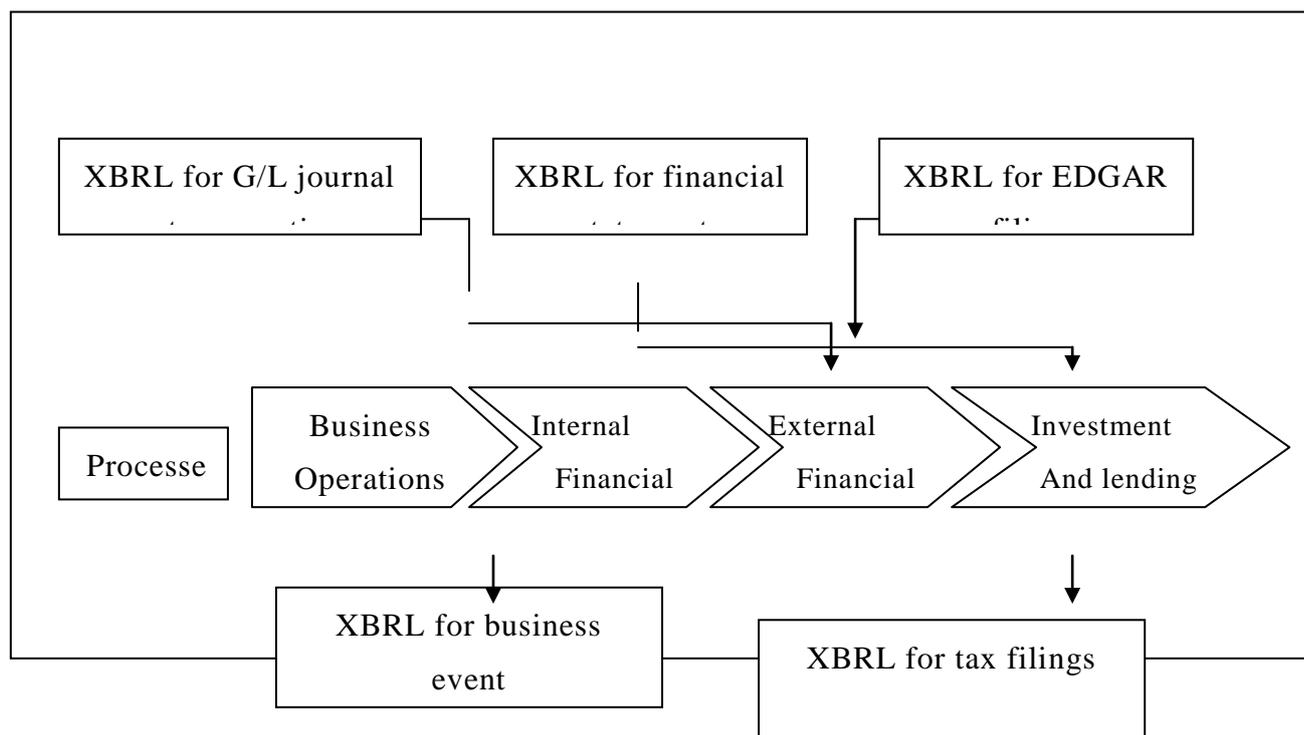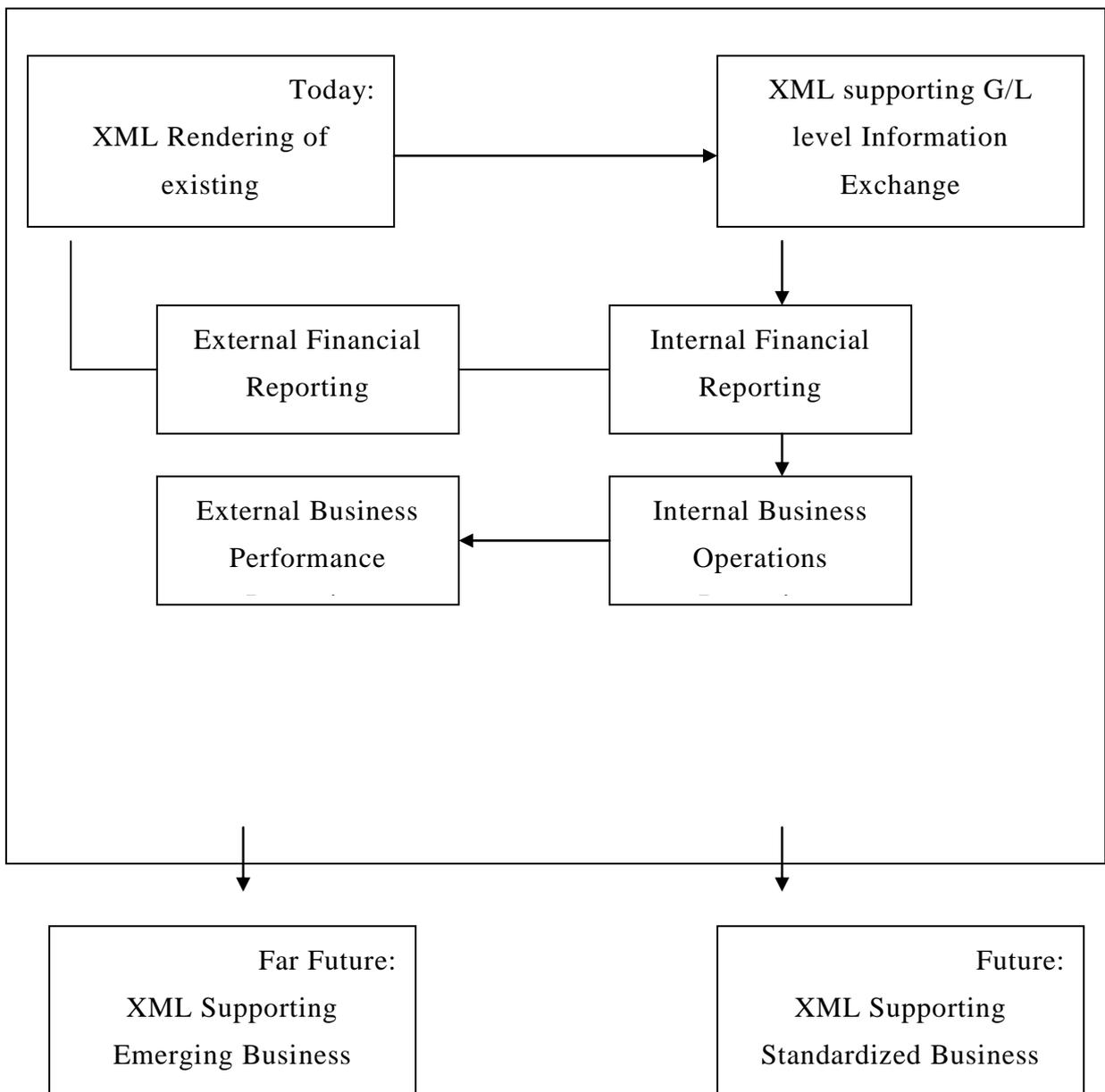

Fig.1. Expansion of XBRL for different process.

Fig.1. Expansion of XBRL for different process.

2- Expansion of XBRL beyond financial reporting:
Fig.2 illustrates expanding beyond financial reporting. The four blocks in the center of Fig.2 can be viewed as four cells in a 2×2 matrix. Vertically, reporting can be divided into external and internal. Horizontally, the contents of the reports could be divided between financial and operational. The larger arrow in the background of Fig.2 illustrates the evolutionary flow of the expanding XBML domain. Initially, XBRL is focused on external financial reporting.

Conclusion:

XBRL (Extensible Business Reporting language) is the XML based solution being developed for business information reporting. It is designed to improve the exchange, aggregation and analysis of corporate data requiring disclosure, through a unique tagging structure that provides interoperability.

Since, the proliferation of a multitude of XBRL taxonomies can risk the objectives of standardization, comparability and reusability of the information that is sought with XBRL, it is essential to develop global accounting standards as a unique foundation on which the XBRL taxonomies can be established. The harmonization of accounting standards with creation of common ground for international firms, can increase the benefits of XBRL.

As a final conclusion, a future scenario is proposed in which the reviews of the IFRS-GP taxonomy need to be continuous, or at least frequent, to be able to detect possible mis fits between the taxonomy and the reporting practices of companies that prepare their financial statements based on IFRS.

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ISLAMIC VIEW OF ACCOUNTING AND NEW THEORIES

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Abstract:

These years accounting has found more relationship with society, culture, religion, markets and economic. Some researches thought that concentraiztion of accounting and have consensus that can cause to simplifying on interpreting and understanding of themes and increase the authority and reliability of financial statements. There are some common points between some religions in doing trade and some common rules. That guide and help mans and corporate to do fairness transactions. In this way we survey some Islamic views that want people to do them for progressing and developing. In the last section we conclude that Islamic commands on contrasting with boarding and creating of resources inflow have relation with activity based costing (ABC) and just in time producing (JIT)

Key words: International accounting, culture effects, just in time, hoarding

Islamic accounting at theoretical perspectives:

These days there are many discussions in society about the effects of religious aspects of accounting. In some Islamic countries scientists believes that

regarding of Islamic rationalities may have efficiency on accepting and doing of better accounting by Muslims. In these countries Islamic commands have more efficiency on human's lives and government has to establish Quran Sonnat. In this way some accounting scientists differentiate between Islamic and eastern economics.

As mentioned in Islam, man is just trustshiper of god give recourses. But at eastern economy man is the final owner of resources and Muslims responsibility is for gods and people, in this way all Muslims corporations can just do legitimated transactions and are responsible for there transaction results to al; interested on corporation and god so the main instruments for that is known khoms and zakah. In the capitalist societies profit maximizing, personal interests are the base of economical movement but in Islamic view of economy society benefits, fairness, trustiness are main factors whom would be suspected. Some transactions like trading alcoholic, gavel, gambling are prohibited in Islam. There for economical activities would be based on no including   those activities.

So Islamic accounting determined as: systematic process of recording of legitimated transactions, measuring and reporting of financial statements.

As mentioned some Islamic regards the main different between traditional and Islamic accounting is "legitimated" that is esoteric for understanding Islamic accounting and there would be explored   some principles of this view of accounting. In many Islamic countries established some council for surveying

transacting for recording Islamic legitimating on the other hand Islamic society cannot accept and support no legitimated transactions that some corporations do them. Muslims believe that all transactions that are prohibited on canon of Islam ,have losses for people and perfect likelihood society so they would be deposited for society .but accounting has to record and maintain results of both legitimated and non legitimated transactions .

These days we can found some relation between Islamic commands for prohibited activities and benefits of that for society. These days scientists emphasis on losses of alcoholic on human organism.

Zakah

Another definition of Islamic accounting is a process of identifying, measuring and reporting legitimating of financial activities that are used to decision, measuring zakah and actual profit of Islamic investment based on Islam commands. So other goals of

Islamic accounting is measuring Zakah. Zakah are commanded in Islam canon as a permanent factor of developing Islamic societies. So another function of accounting is measuring of Zakah as a regulator of worth among man. Recently zakah has been can centrated in so many Islamic countries. Pursuant of Islamic commands all Muslims that have residual benefits from some activities must pay some amounts as zakah for government, this is like tax that use for adjusting so worth between poor and rich people. Zakah is personal and there is not

requirement for corporation to any Zakah. Main goal of Islamic accounting is usefulness for decision, agency function, and Islamic responsibility.

Usefulness for decision:

Islamic accounting goals for banks is determining propose of banks activity that would be charity loans. In this way all Islamic banks would consistent their activities with Islam commends and they have to achieve permit of shariah. So main purpose of Islamic banking reporting are:

1) Information about sharieh regarding in banks.

2) Information about economical resources and obligations and events.

3) Information required for determining zakah.

4) Information about cash in flow estimation.

5) Information about banks responsibility for resource keeping.

6) Information about social responsibity of banks.

Some researchers believe that Islamic accounting theoretical framework that is prepared by Islamic accounting institutions is common with traditional accounting framework. In tradition view relevant information for users are whom that are related with financial position and performance may be that is one of difference between Islamic and traditional accounting also Islam and Muslim expect companies to have rational profit. Financial accounting proposes is preparing information needs of outside users that are environmental needs. So environmental factors are effective on accounting and if there is international need, accounting have in so many Islamic countries trading and corporation are

like other countries and in many cases are common so Islamic accounting propose would corer all institutions information needs and we can not limit Islamic accounting proposes.

In Islam canon maximizing of profit is not prohibited if that is in framework of Islam legitimating. In practice there is common motivated for Muslims in achieving profit and we can set some standard for special trades of Muslims like Islamic agreements standards.

Some Islamic accounting researcher's limit that just for zakah while that is not true and it would develop trading, taxing and even cost accounting and management like JIT, ABM. Further more Islamic accounting proposes can be used on usefulness for decision making is useful for responsibility. So information that are used for Muslim decision making would used for sharieh responsibility of Muslims. In this way some researchers discuss that word of 'Islam' would be add to accounting and state of Islamic transaction accounting can be true. So some Islamic accounting and auditing institution set some standards for these transaction reordering. Because international accountings standards have not have related standards about Islamic agreements these institutions are active but it seemed there would be common standards included by IASB about Islamic transactions.

Stewardship

Stewardship accounting has theme at historic .in this concept human is stewardship of god for maintained of resources and has to create profitability and efficiency of them as a social responsibility.

In Islamic view stewardship means that all assets which owned by peoples are belong to god and people most do there agency task rightly and would be responsible for. in so many cases god transferred his rights to people and wants them to keep that in right way .on the other hand all resources which owned by people are belonged to all people as gifts from god for all kinds of people in this way worth can be adjusted by Islamic rules as gods commands at Quran and can notice to this that is one of major factors of permanent and sustainable development of economics and societies.

Social accounting and Islamic accounting:

Social contract theory:

Lately there are a lot of variations in environmental and social revealing of companies. Social contracts theory supposes that conscience is the social insight in such an excellent way to who act legitimately and according to contract. Social contracts theory completely contact with environmental contracts assumption. This theory supposes that companies participate in social contrast agreeing with society in forming social, environmental demands to reach their goals and finally surviving of themselves.

Definition of legitimacy theory:

Social contract is done for arranging reciprocal effects of social. This contract was between citizens and actually is formal declaration of condition that is better for all of people and the role of democracy with attention to appealing of people is performed. It is also try to characterize the right of person, social and environmental groups in contravention agreement between social members. The legitimacy theory is appeared in context of reciprocal effects of organization, Society and environment which is state that organizations are trying continually for assuring that their activities are done as social appeals until they assure that there is positive understanding from their activities which have be done out of organization's activity. Organizations as small member of big circumstance in which they have activity are controlled. This days not only the stockers are in contact with social contract but also adherent of environment are benefit from social contracts. However in past, benefit of companies was the only means of measuring the legitimacy of companies, today's institutions remain with legitimacy title to develop their activities in same form and size with goals of environmental and social system. Ignoring social contract means defeat in acting as expect of society and environment which may cause to delete some social contract and lose of activity license from society. This state appears when society knows that environmental expenses of company are more than its benefit for circumstance. Vice versa organizations and institutions which have

successful connection with society and acted according social contract, have more benefit distribution than cost and expenditure for society and circumstance in suitable financial and social situation

Environmental accounting:

Any accounting information which is inform the decision makers and make noticeable perm in reaming the environmental reality, have two important characterizes: first, they are relate to accounting information, secondly, they are reliable. From accounting benefit view, successful institution is which increase production in maximum. While increase in volume of inputs accompany with increase in volume of outputs and financial border remain acceptable among dates and takes in accounting goods.

In real economic situation, all inputs are from environment and all outputs are catches and distributed goods with terminated which are return to environment. From this view successful institution is one which has more destruction and effect in environment. Accounting measures them only where it can estimate this effect as element that can change into money. In other word when it can gain final cost, it can recognize them. Because it seems impossible to estimate any price for most of environment destroying element so they are delete. It seems that in modern accounting system, continually destroying of environment must be fallowed. Now one of discussable topic is environment reporting and

increasingly environment auditing which is characterize other aspects of organizations and their activities.

Lately noticeable increase is happened in accounting research, especially in environmental effect of organizations. Researcher pay most of their attention in environment investment, management of environment and its auditing form, environmental reporting, role of accounting in playing environmental responsibility of organizations, effects of environment accounting in both financial and auditing statement, insurance, bank debt, destruction of cutch and legitimacy.

Conclusion:

At the end we conclude that zakah and khoms are Islamic instruments that are made for adjusting worth and economic between all kind of human and because of Islam commands people have responsibility for good maintenance of all resources that are gifted from god. Also As mentioned above social and environmental accounting completely are related with resources that are trusteeship and gifts from god and emphasized at Islam commands for keeping rights god and people . So we can explode and include them in Islamic accounting too. As Islam keep so many importance for payment of labors fees and emphasized on preservation environment also have emphases on costumer right as mentioned: Woe to those that deal in fraud, Those who, when they have

to receive by measure, from men, exact full measure, But when they have to give by measure or weight to men, give less than due. Do they not think that they will be called to account? On a Mighty Day, A Day when (all) mankind will stand before the Lord of the Worlds? Nay! Surely the Record of the Wicked is (preserved) in Sijjin. And what will explain to thee what Sijjin is? (There is) a Register (fully) inscribed. (Surah Al-Mutaffifin:1-9)at the end we can receive some new theories of accounting base on Islam , like JIT systems that not having saved goods in stores is recommended and necessitated at Islam commands(hoarding) so Muslims can create resources inflow .

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ISSUES OF FINANCIAL LITERACY AND SUPERANNUATION

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ABSTRACT

The purpose of this paper is to provide an exploratory of the financial capabilities of superannuates and the protection offered by Government and the Financial Services Industry in Australia. Interpretivism techniques have been used to examine various reports and websites provided by government authorities. Results indicate that even though financial literacy programs have been introduced and amendments to legislation to improve the protection of superannuation funds have been made, many people are still making incorrect investments regarding superannuation. This paper examines the need to increase financial literacy educational programs in the light of current demographic and economic trends.

Keywords Financial Education, Financial Risk, Superannuation, Financial Service Industry, Fraud. Interpretivism.

INTRODUCTION

In Australia today, superannuants bear more risk in regards to their financial security than their parent's ever did. This has been brought about by government policies such as the deregulation of the banking and financial system and the introduction of self funded retirement in the form of superannuation. The deregulated financial market has brought about economic benefits for some but unfortunately for others it has brought their financial ruin, this is due to the lack of understanding of the financial risks, costs and rewards associated with their financial decision making. Issues of financial literacy are growing with the increase in complexity of the financial markets and regulation.

Australia is confronting the social and economic issues associated with a large and rapidly growing aged population. Demographic trends indicate that by 2047, 42% of the population will be over the age of 65 years (ABS 2005). People are living longer and retiring earlier and spending as much as one third of their life in retirement (ABS 2006). Therefore, planning for retirement is important if superannuants want to maintain a good standard of living in retirement.

Superannuation is compulsory for all working Australians and this puts the government under some obligation to protect these funds and educate consumers. Government policy is that superannuation is a desirable form of saving for retirement. Funds are deposited in entities within the Financial Service Industry (FSI) that in turn invest in the marketplace and charge fees for doing so but the risk associated with investment is born by the superannuant. The role of government and the Financial Service Industry has been poor in regards to the protection and education of consumers.

This paper will focus on an exploratory investigation of the increase in financial risk of individuals with emphasis on superannuation and the role of regulatory bodies in protecting the public interest. A brief overview of the research method will be explained and a discussion on the regulatory bodies will follow. The third section of the paper will focus on some of the recent 'scams' or fraudulent activities that have occurred causing some superannuants to lose their

retirement savings**.** Finally some suggestions on policy changes and conclusions are drawn.

BACKGROUND AND LITERATURE

Over the past twenty years there has been a shift in financial risk from Government and corporations to the individual. In the past corporations would provide pensions on retirement in the form of defined benefit plans for their employees. The onus was on the employer to ensure that the employee would retire with adequate funds. The Government would provide modest pensions for those who did not qualify for a defined benefit plan. Over the past decade the shift of responsibility for retirement funds has been placed on the individual. Now employees have to ensure that they have adequate funds to maintain their lifestyle and health insurance in their retirement. At present there is more than $700 billion in the superannuation pool and that amount is growing by $50 billion a year. The biggest growth is in self-managed or do-it-yourself funds (SMSF). While the idea of managing your own money may be desirable, experts

warn it can be a trap for the unsophisticated superannuant who can lose all monies invested.

In addition to the above circumstances the introduction of Super Choice and changes to Portability Provisions has given the majority of working Australians more control over the management of their superannuation benefits. Super Choice will allow the 9 million Australians' with superannuation to invest in any fund they wish. A loophole in the legislation allows people to gain access to their superannuation on 'compassionate' or 'hardship' grounds before they reached the official preservation age which is between 55 and 67 years of age depending on the individuals date of birth. Compassionate or hardship is defined as the inability to meet living expenses due to terminal illness or long-term unemployment and payments are generally limited to $10,000 per annum.

The lure of control and access to superannuation funds to pay off mortgages and other accumulating debts has led some superannuants into making

detrimental decisions when unaware of the stringent conditions as stated above.

There are 'financial advisors' who encourage people in financial strife to withdrawn their superannuation funds and charge a fee of 20% or more of the funds assets, only to find several months later a tax penalty for the early withdrawal of funds, which can be up 50% on the amount withdrawn.

Also the deregulated innovative financial world has expanded the range of financial products and strategies available to superannuants, providing scope for better financial risk management but also allowing (and encouraging via advertising) greater financial risk taking (Davis, 2007). Unfortunately, many superannuants that were born between 1946 and 1964 purchase products that are not suitable for their needs. Superannuants who are lacking financial literacy skills find it difficult to identify products and services that are appropriate to their needs;

> they are unsure about how best to access and evaluate independent advice; they make inappropriate financial decisions;

and they fall victim to abusive practices and mis-selling (FSA, 2005).

More generally, the persistently high profit rates of financial institutions and the income of financial advisers raises the question of whether, despite competition in financial markets, many superannuants pay too much for the financial products they need (or feel they need) to purchase. The availability of 'easy' income from less than informed superannuants leaves them vulnerable to unscrupulous conduct. 'Superannuants face a wide range of alternative, heterogeneous; complex and can constantly changing financial products' (Davis, 2007).

Financial markets are intertwined with superannuation funds and government policies. The markets are mechanisms for investment of superannuation funds and have been producing healthy returns for investors up until recently. Government policies promote economic development and encourage savings to increase the living standards of the community. In addition some of the funds

have been used to purchase shares in newly privatised state assets. When the market fails or there are unscrupulous financial advisors many superannuants can and have lost their life savings therefore having a significant social and economic cost. As a consequence the Government imposes more regulation which in some instances complicates policy and superannuants understanding.

In the past few years there has been an increase in mortgage debt and consumer credit with some concerns raised over the lack of financial knowledge which has lead to some superannuants who are seeking to reduce their debt succumbing to immoral behaviour as mentioned above. In the current financial climate low levels of savings and increasing high interest rates are being experienced which have placed many Australians in an adverse financial position.

Concept of Legitimacy

Corporations and governments are artefacts of society that are enabled through legalisation and it has been argued by many authorities (Shocker and Sethi 1973, Reich, 1998) that their existence depends on the willingness of society to continue to allow them to operate and as long as they hold a moral obligation to act in a in the responsible manner. The moral obligation forms a part of the social contract between business, government and society. This social contract forms the basis of many theories, eg. Legitimacy theory (Dowling and Pfeffer, 1975, Guthrie and Parker, 1989, Matthews 1993), political economy theory (Guthrie and Parker, 1990) accountability theory (Gray et. al. 1995) and stakeholder theory (Roberts, 1992). These theories have common characteristics but it is evident that the common theme is the relationship between stakeholders and the enabled bodies.

Legitimacy theory is derived from the notion that corporations and governments will strive to legitimise their actions in society and has been defined by Dowling and Pfeffer as:

A condition or status which exists when an entity's value system
is congruent with a value system of the larger social system of
which the entity is a part. When a disparity, actual or potential,
exists between the two value systems, there is a threat to the
entity's legitimacy (1975:122)

Legitimacy theory posits that the legitimacy of a corporation and government to

operate in society depends on an implicit social contract between the entities

and society. These bodies lose their license to operate in society by breaching

society's norms and expectations (Kent and Monem, 2007:7). Therefore, if a

company or government perceives that its legitimacy is at threat it will alter its

operations to conform to society's current values and norms.

Organizations seek to establish congruence between the social
values associated with or implied by their activities and the
norms of acceptable behaviour in the larger social system of
which they are a part. Insofar as these two values systems are
congruent we can speak of organizational legitimacy. When an
actual or potential disparity exists between the two value
systems, there will exist a threat to organizational legitimacy.
(Dowling and Pfeffer, 1997:122)

This allows society to achieve a whole rang of social objectives that it otherwise could not do. Many organisations have taken actives roles in improving their communication channels in order to comply with societies expectations as Dowling and Pfeffer in their seminal paper on legitimacy theory make the following point;

> … since legitimacy is a constraint on behaviour, organizations in which values, output, or methods of operation are currently at variance with social norms and values will tend to alter these values, or methods of operations to conform to social values (1975:131).

Suchman (1995) refers to a 'generalised perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs and definitions' (p. 574). Organisations will continually seek to ensure that they are perceived to be operating within the social values and norms of society. Unfortunately for organisations, these values and norms are not fixed but change over time, therefore requiring organisations to be responsive. 'Legitimacy' is consider to

be a resource on which an organisation is dependent for survival (Dowling and Pfeffer, 1975; O'Donovan, 2002) therefore it is an attribute that is desirable for organisations to operate in society successfully. It could be said then that legitimacy theory is really based on management's perceptions on how society views the organisation. If society views the organisation in a negative manner then management will do everything in its power to be perceived as conforming to society's values and norms.

However, the majority of research examines legitimacy on an organisation level and rarely at the level of an individual decision-maker. Devos et al. (2002) research about the degree of people's trust in institutions found that;

> .. trust in institutions was linked positively to values such as security, conformity, and tradition, but negatively to values such as self-direction. This supports the view that seeking security and conformity relates to stronger attachment to collectivities, while reliance on own judgment and individuality is compatible with a sceptical attitude towards institutions. (p.481)

Devos et al research is insightful in that if government and organisations are not seen to be looking after society in relation to social and economic benefits then these bodies will risk disapproval. Society's values are constantly changing and organisations need to be reactive to these changes as Lindblom (1994) states

> Legitimacy is dynamic in that the relevant publics continuously evaluate corporate output, methods, and goals against an ever evolving expectation. The legitimacy gap will fluctuate without any changes in action on the part of corporation. Indeed, as expectations of the relevant publics change the corporations must make changes or the legitimacy gap will grow as the level of conflict increases and the levels of positive and passive support decreases (p:3)

MAINTAINING LEGITIMACY

Lindblom (1994) identified four strategies for maintaining legitimacy.

1. educate and inform (in response to the recognition that a legitimacy gap may exist)
2. change the perception but not actually change behaviour (misconceptions in the market place
3. deflecting attention from the issue and adapt a positive strategy to override any negative performance
4. change expectations (unrealistic or incorrect expectations of the companies responsibility)

In order for the government to legitimise its changing role it has combined several government agencies to regulate and enforce legal requirements in the protection of $1.4 trillion dollars invested in superannuation assets (APRA 2008) and also to protect the superannuants themselves.

There are three major agencies that are involved in the regulating and protection of superannuation assets, The Australian Securities and Investment Commission (ASIC) which is responsible for market integrity and is the enforcer of regulations. The Australian Prudential Regulation Authority (APRA) is concerned with the quality of a financial institution's systems for managing the various risks in its business. The third body, the Australian Taxation Office (ATO) acts as a compliance overview on self-managed superannuation funds, employee superannuation contributions and tax rules in regards to early withdrawal of funds.

By deregulating the financial industry, the government has made an implied statement that consumers will act in their own best interest based on disclosure supplied by the industry participants. The amount of government intervention over recent years has made superannuation and taxation regulations very complex. Unfortunately, it appears that many Australians lack the knowledge, experience and judgement to make informed decisions on financial matters. In the 2008 a survey of Adult Financial Literacy found that 20% of people surveyed where 'unsure' of the type of superannuation fund they contributed to (ANZ, 2008:69).

In recent years there has been considerable attention paid by the FSI and the Government to the delivery of programs that enhance financial capability in the community. To this end the Government has established the Financial Literacy Foundation and various companies within the FSI have introduced programs such as the ANZ Money Minded. Money Minded consists of adult financial

education programs that are developed to help people build their financial skills, knowledge and confidence in relation financial planning for now and the future.

There are many reasons for these initiatives but in particular the ongoing changes and complex rules and regulations of superannuation are clearly affecting superannuation understanding. The Commonwealth Bank in one of its latest newspaper advertisements states' Retirement planning made simple, because most of us aren't fluent in gobbledygook' is a reflection on how one of Australian's major banks understands the difficulties that face superannuants in making financial decisions.

A survey conducted by the Financial Literacy Foundation in 2005 found that 67% of respondents said they understood the principle of compound interest when asked to make a calculation only 28% were rated with a 'good level' of comprehension. In 2007 a further study was conducted by the same body and it revealed 88% of the respondents were highly confident in their ability to protect their money and were able to recognise a scam or an investment scheme that

seemed 'too good to be true'. But the same survey found that many participants

were not confident in their ability to understand financial language which could

indicate a higher degree of vulnerability to scams (FLF, 2007).

Superannuation is a complex issue and it is important to understand the

financial capabilities of superannuants in order for the FSI and Government to

delivery appropriate programs. It is also necessary to understand the role the

FSI and Government play in the inclusion and exclusion of information and how

they conduct their activities for the benefit of the community.

The shortfall is between the FSI and Government expectations of

Superannuants' financial capabilities and the ability of Superannuants to

increase their own personal wealth for retirement. On the other hand

Superannuants rely on Government and the FSI to act in their best interests.

Even educated and well informed consumers cannot predict fraudulent

behaviour.

Figure 1 Gap of Confutation

Figure 1 above illustrates the confutation gap that exists between the government, FSI and Superannuants. This is due to the increased responsibility on superannuants to provide financially for retirement, the rising number complex financial products available, the increase in risk and changes in legalisation including taxation law has lead to a confutation gap.

Australians' ability to manage financial risk would also be helped by better government policy on financial education for consumers and control of products.

There has been an increase in the options and complexity of financial products

which can cause confusion by the sheer volume of information. Without education and expert independent advice, the range of choice available to investors may actually compound the problem (Smith, 2008)

RESEARCH METHOD

To demonstrate the confutation gap an exploratory study utilising a 'natural setting' which has been defined by Vogt, 1993 (in Collis and Hussey, 2009, p153) as a research environment that would have existed had researchers never studied it. The environment for this study is the relevant government agencies websites.

This study undertakes a interpretivism focus 'that explores the complexity of social phenomena with a view to gaining interpretive understanding. The research involves an inductive process with a view to providing interpretive understanding of social phenomena within a particular context. (Collis and Hussy, 2009:57). Therefore this research method will lead to a board conclusion and hopefully lead to further research.

EXPLORATORY OUTCOMES

One of the major activities that Government and the FSI must perform is the protection of superannuants' funds. Whilst most of the information delivered to consumers is on the performance of their funds, not much information is made available to the community on the superannuation 'scams'.

On the ASIC website some of the recent 'scams' and prosecutions are;

- Australians have lost at least $400 million to telephone investment fraud or cold calling scams over the last decade.

- Advertising flyer promoting access to superannuation for a fee of $2,000.

- Unlicensed financial advisors advising clients to withdrawn superannuation to pay off mortgage and other accumulated debt.

- Convincing superannuants to switch from their industry super fund to a retail super fund

The above three cases are recent convictions, but unfortunately these practices have been in existence and known to some of the above authorities for nearly 10 years as presented on various government websites. Even though laws prohibiting the withdrawal of funds and financial literacy initiatives have been introduced clearly these strategies are not working as can be seen from some events of 16 years ago.

- An accountant was convicted and sentenced to 3½ years imprisonment with a non-parole period of 27 months for fraudulently obtaining the payment of $2.5 million in superannuation benefits on behalf of 114 clients between August 1996 and October 1999.

- A Financial adviser was convicted of fraudulently inducing the payment of $62,000 in superannuation benefits on behalf of three of his clients and for theft of part of these payments in November and December 1999. He received a three month suspended sentence and ordered to pay $38,000 in compensation to the clients.

- An insurance agent was convicted of fraudulently inducing the payment and theft of five clients' superannuation benefits totalling $34,000. These offences, which occurred between August 1996 and February 1997, resulted in him receiving a four-month suspended sentence and order to pay compensation to the clients.

In the early 1990's the Government set about establishing 'tough' new regulations to control such scams and introduced financial regulation, including arrangements for market integrity, consumer protection, stability and competition.

In response to the financial problems which occurred in the late 1980s and the expansion of superannuation, prudential regulation was upgraded through tougher capital requirements and structurally reformed through the consolidation, refocusing and better coordination of regulatory agencies. The greater range and complexity of products and, in some areas, concerns about more aggressive selling practices, have led to an increased focus on consumer protection. This has resulted in new consumer credit regulation and new rules for disclosure, codes of conduct and dispute resolution (Australian Treasury, 1997)

But it would appear that these 'tougher capital requirements structural reforms' have not had the desired effect. For Government who has made superannuation compulsory and FSI who members are responsible for investing these funds they need to be more in tune with society's expectations, failure of superannuation funds could wipe out entire savings of some superannuants therefore having a social consequence.

The Australian Tax Office (2009) (ATO) website warns 'beware of illegal schemes to withdraw your superannuation early' and that;

Both promoters and participants of these schemes are breaking the law and will face heavy penalties and potentially prosecution, even if the participant was unaware that their actions were against the law.

Unfortunately the judicial system is lenient on such promoters and the 'heavy penalties' do not compensate the victims. It is evident from the above that the Confutation Gap between Government, FSI and Superannuates is a serious social issue.

SUMMARY AND CONCLUSIONS

Unfortunately, these changes have not had the desired effect as can be seen from the first three cases on superannuation 'scams' which occurred in 2007. As stated above the role of Government is changing from a facilitator of goods and services to that of a protector of the community. There appears to be great hope and expectations placed on the outcomes of financial literacy programs provided by the FSI and the FLF but unfortunately the findings from the survey conducted by the FLF suggest that fewer Australians are confident in their ability to understand financial language, yet their confidence in related areas,

e.g. recognising a scam and dealing with financial service provider, is comparatively high (FLF, 2007) which exploratory evidence presented suggests is not the case.

The Association of Superannuation Funds of Australia (ASFA) is critical of the consumer protection structure and cited recently that 'poorly designed and complex information disclosure processes have long been the bane of effective decision making by consumers, (Vamos, 2007). With billions of dollars tied up in superannuation it is evident from the above that government and the FSI need to be more proactive in consumer protection and education.

This paper is based on anecdotal evidence collected from various government bodies and regulatory authorities. However, it is indicative of an underlying problem that needs a more objective test for hardship and compassion and a federal agency body should be established to administer the early release of

superannuation funds. More research is needed in this area so that strategies can be put in place to aid and protect superannuants.

There appears to be a disjointed match between government legislation and the superannuation industry. The regulations have not improved the protection of funds and people are still being disadvantaged by the miss-appropriation of funds. What the government's intent and what is actually happening appears to be increasing the confutation gap of all parties involved.

Areas of further research

Challenges exist in trying to address financial literacy, particularly in light of changing knowledge demands in the twenty-first century. There needs to be mechanisms in place that allow superannuants to obtain independent advice and this advice needs to be in a format that is understandable and affordable to the individual. More research needs to be undertaken to ascertain the best

method of delivering and information. Reliance on the internet as the major tool of communication appears not to be working.

In relation to crime and superannuation this is an under-researched area which involves some difficult conceptual and methodological issues due whether the perpetrator is caught, charged and incarcerated. This will depend on the resources available to police superannuation funds and financial advisors and affects the availability of data.

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LEASING IN TRANSITIONAL COUNTRIES – CASE OF B&H

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Abstract

Lease is defined as "an agreement whereby the lessor conveys to the lessee, in return for a payment or series of payments, the right to use an asset for an agreed period of time".

Leasing is used to finance a vast range of assets and leases can be tailored to meet the needs of clients, implying that almost any kind of good can in principle be leased.

Among many reasons why to lease there are finacial reasons, efficiencies and advantages, quick application process, flexibility etc.

Two major types of leasing are financial and operative leasing.

Accounting treatment of the financial leasing stipulates that legal entity – the lessee shows vehicle, machine or equipment acquired through leasing arrangement as capital asset and as obligation to the leasing company. Monthly installment is booked separately on principal and interest. Interest with tax

enters the cost, and principal decreases liabilities to the leasing company. The lessee calculates depreciation on the leased asset, as capital asset, in accordance with valid depreciation rates.

On European leasing market, Bosnia and Herzegovina belongs to CESEE countries group (Central Eeastern and South Eastern Europe), where currently, according to the statistics, is the biggest increase of leasing business. The value of the concluded leasing contracts in 2004 was 106.361 million Euros, while in 2005 the value was 185.025 million Euros, which is 74% more than in 2004. This fact proves that leasing business in Bosnia and Herzegovina is in increase.

Key words: lease, leasing, financial lease, operating lease, IAS 17

What is leasing

The simple term lease covers a myriad of different contact types, the common feature of which is that the lessor retains the ownership of the leased asset throughout the life of the contract.

With a multitude of definitions existing in local GAAP, fiscal legislations and in some cases within specific local legislative frameworks for leasing, the only common definition of a lease that can be given on the European level is that provided by IAS17, the international accounting standard for leases, where a lease is defined as "**an agreement whereby the lessor conveys to the lessee, in return for a payment or series of payments, the right to use an asset for an agreed period of time**".

Leasing is used to finance a vast range of assets and leases can be tailored to meet the needs of clients, implying that almost any kind of good can in principle be leased.

Why to lease

Financial reasons - not every company or individual is in position to buy equipment necessary for start, expansion or modernization of its business. Not every company has adequate collateral to offer as security for bank loans. Leasing represents the answer to such problems enabling lessees to acquire necessary equipment.

Efficiencies and advantages - users of leased asset pay leasing installments out of the profit acquired via utilization of the leased asset. Very often, leasing secures 100% of the project financing.

Leasing is in most cases offered without additional security means - one of the major advantages of leasing is that the lessor offers financing without requests for additional security (since the lessor is the legal owner of the leased asset). In countries in transition, additional security is often requested, but in that case the security is significantly smaller than with traditional bank loans.

Quick application processing - since in most cases the additional security is not needed, leasing can be concluded in simpler and quicker way than classic

bank loans (ideally, for just one day). In most cases the decision is made on the basis of the capability of the potential lessee to fulfill monthly obligations stipulated by the contract on leasing.

Flexibility - leasing offers possibility to start or to develop business with minimum initial deposit (down payment). Leasing installment plan can be modified to meet the specific needs of the lessee. Additional services such as more favorable maintenance of machines and equipment can be obtained via lessor's assistance, which cannot be expected with bank loans.

Leasing categories

Lease can be defined as written contract between two parties: lease company (lessor) and beneficiary of lease subject (lessee).

In this transaction the lessor acquires the equipment from the supplier and gives it to the lessee for use for certain period of time, while the lessee is obliged to make periodic payment to the lessor under conditions specified in the contract, in return. Lessee is choosing its own supplier of the subject and

making its own price and delivery arrangements. After that, lessee is turning to the lessor with the offer of buying the subject on his behalf.

The main principle of leasing business is:

The lessor retains legal ownership over the leased asset, while the lessee acquires economic ownership.

Two major types of leasing are:

- Financial leasing

- Operative leasing

Financial leasing

The lessor, upon the agreement concluded with the lessee, purchases the leased asset from the supplier and gives it to the lessee to use. The lessee uses the leased asset for business and thus acquires profit which allows the lessee to pay agreed fees to the lessor. During the payment period, the leased

asset is legally owned by the lessor and the leased asset is booked and written

off in the lessee's books. Usually (but not obligatory), leasing contract stipulates

that with payment of the last installment, the lessee automatically becomes the

legal owner of the leased asset. Financial leasing is often defined as alternative

way of financing new investments of enterprises. In comparison to the bank

credits, financial leasing has many advantages for the lessor as well as for the

lessee: quick and efficient application processing, flexibility, economical quality

etc. Summarizing:

- Ownership over the leased asset is usually automatically transfered to

  the lessee upon the expiration of the contract on leasing

- Time period of the contract on leasing is comparable to the assessed

  economic shelf life of the equipment.

Operative leasing

It is primarily intended for utilization of the leased asset with downpayment and

future value. Operative leasing allows the lessee to return the leased asset or to

renew the contract for the new, more modern leased asset upon the expiration

of the contract. With operative leasing, installments are booked as cost and the

leased asset is booked and written off in the lessor's books. Summarizing:

- The lessor retains ownership over equipment even after the expiration of

    the contract on leasing

- Time period of the contract is considerably shorter than the assessed

    economic shelf life of the equipment.

Besides this basic classification of the types of leasing, there are other

classifications based on characteristics of objects of leasing, duration period,

the number of the engaged parties etc.

Benefits of leasing

Generally speaking, the economic importance of leasing derives from the fact it

provides capital which is used for investment purposes. This in turn translates

into a healthy economy, generates employment, and promotes innovation.

The benefits of using lease finance include:

- The possibility to finance 100% of the purchase price of an asset without having to offer any supplementary guarantees which would otherwise be an additional burden for the company seeking finance;

- Allowing companies to manage their working capital by spreading payments over the life of the asset;

- Making budgeting exercises easier as lease payments are regular and usually for a fixed amount;

- Giving firms the opportunity to renew their equipment, making sure that they benefit from the latest available technologies;

- Providing other sources of finance, independent from bank loans or credit lines, thereby conveying more freedom to the lessee;

- Ensuring the lessee has a stable and certain source of funds that cannot be withdrawn as long as payments are made;

- The ability for the lessee to use equipment or other assets without having to worry about considerations linked to being an owner such as the disposal of the asset when it is no longer used;

- Providing customers will a full package - a lease can also accompanied by an array of services, including the insurance and maintenance of the asset. A wide range of services can be combined with different types of leases;

- Taking advantage of local fiscal treatment which implies that leasing can also be beneficial from a tax point of view;

- Being the only available source of funds. In certain cases, particularly for smaller companies who have high growth potential, leasing may be the only way to finance their development;

- Generally speaking, providing finance in circumstances when traditional bank facilities would not be granted as lessors have greater security due to the ownership of the asset. This also implies that leasing may be offered on better terms than other forms of finance.

Leasing and accounting (IAS 17)

Accounting treatment of the financial leasing stipulates that legal entity – the lessee shows vehicle, machine or equipment acquired through leasing arrangement as capital asset and as obligation to the leasing company. Monthly installment is booked separately on principal and interest. Interest with tax enters the cost, and principal decreases liabilities to the leasing company. The lessee calculates depreciation on the leased asset, as capital asset, in accordance with valid depreciation rates.

IAS 17 represented through picture 1:

FINANCIAL AND OPERATING LEASE IN THE LESSEE'S FINANCIAL REPORTS			
FINANCIAL LEASE		**OPERATING LEASE**	
DEFAULT	EXCEPTIONAL	DEFAULT	EXCEPTIONAL

FINANCIAL LEASE — DEFAULT

1. All ownership related risks and rewards are transferred
2. The ownership is transferred to the lessee by the end of the lease term
3. Recorded as an asset by the lessee
4. Recorded as an asset at the lower:
   a) fair value of the asset (practically by the purchase price without interest, increased by initial expences)
   b) present value of the minimum lease payments
5. Depreciation policy is conducted by lessees according to IAS 16 and IAS 38
6. Land and building elements are classified separately

FINANCIAL LEASE — EXCEPTIONAL

Everything else is the same except:

1. The ownership is not transffered to the lessee
2. The land and building elements are classified as one unit if the land price is negligible

OPERATING LEASE — DEFAULT

1. Operating lease is the one that is not financial
2. All risk and rewards are not transferred to the lessee
3. The ownership is not transferred to the lessee
4. It's not recorded as an asset in the lessee's balance sheet
5. The lease payments are recognised as an expense
6. The lessee is not depreciating the lease as an asset, the lessor is in charge of that

OPERATING LEASE — EXCEPTIONAL

1. Operating lease is treated as a financial lease if it's the case of investment into real estate according to IAS 40
2. It is recognised in the balance sheet of the lessee by present value of the maximum lease payment
3. The use of fair value model is mandatory (IAS 40-34)

Over 100 members of the asset finance industry and businesses from across

Europe met in London 22 May this year, to debate the preliminary views on

lease accounting that were published recently by the International Accounting

Standards Board (IASB) and the Financial Accounting Standards Board (FASB)

– so called *right of use model*. They were joined by representatives of the IASB

and European standard setters, together with leaders of the U.S. Equipment

Leasing and Finance Association and the Australian Equipment Lessors

Association.

The European Forum, "Putting Leasing on the Line", considered the standard

setters' long-awaited discussion paper that focuses on putting all types of leases

on firms' balance sheets. This would involve the several million businesses

across Europe who lease or rent making significant changes to the way they

account for leases of all types of assets, including cars, commercial vehicles,

machinery, PCs and photocopiers.

The European leasing industry is concerned that the standard setters are

considering an excessively burdensome approach for accounting for leases.

Leasing provides vital economic benefits for many businesses, and the Forum heard that there is a risk that these benefits could be undermined by unnecessary complexity.

The main opinion of business people is that the focus for lease accounting should be on improvement and simplification, but complex new methods proposed by IASB board may make this vital form of business finance more difficult to use and more opaque for users of accounts.

Leasing in B&H

It can be sad that leasing is relatively new business form in Bosnia and Herzegovina.The first leasing company on B&H market was Volksbank Leasing, established at the beginning of 2001. Hypo-Alpe-Adria Leasing was established the same year in August. Another two leasing companies were established in 2003 – Euroleasing in March and Raiffeisen Leasing in November. In September 2005 CBS-NLB Leasing entered B&H leasing market and HVB Leasing was established in January 2006. Majority of leasing companies are

seated in Sarajevo except Euroleasing which is seated in Mostar. With their

organizational units and branch offices these leasing companies are present in

all bigger towns in B&H: Banja Luka, Mostar, Tuzla, Bihać, Zenica, etc.

On European leasing market, Bosnia and Herzegovina belongs to CESEE

countries group (Central Eeastern and South Eastern Europe), where currently,

according to the statistics, is the biggest increase of leasing business. The

value of the concluded leasing contracts in 2004 was 106.361 million Euros,

while in 2005 the value was 185.025 million Euros, which is 74% more than in

2004. This fact proves that leasing business in Bosnia and Herzegovina is in

increase.

For lack of legislation on leasing matters and in order to improve and develop

leasing business and to achieve their common goals, three currently leading

leasing companies in B&H – Hypo-Alpe-Adria Leasing, Raiffeisen Leasing and

Volksbank Leasing – established Association of Leasing Companies in Bosnia

and Herzegovina in February 2005. The Association officially started to work in

April 2005. In January 2006, Euroleasing from Mostar and CBS-NLB Leasing

joined the Association, and it is expected that HVB Leasing will also join the
Association in the following period. In accordance with their goals, the
Association of leasing companies in BiH is engaged on international plan as
well. In June 2005 the Association joined Leaseurope as associate member.

Leaseurope (Federation of European leasing associations from 30 countries)
was founded in 1972 and it is seated in Brussels.Today, Leaseurope presents
92% of leasing industry throughout the whole Europe and as an umbrella
organization of European leasing market, Leaseurope unites around 1,200
leasing companies.As of 1 March 2006, the Association is a member of
Chamber of Economy of Sarajevo Canton.

Leasing in Bosnia and Herzegovina and in region

Market share of the leading leasing companies in Bosnia and Herzegovina,
Serbia and Montenegro and Croatia in, as well as the value of concluded
leasing contracts in 2005 (considered as crucial year for Bosnia and
Herzegovina leasing market) is shown in the following table:

Company	Bosnia and Herzegovina	Serbia and Montenegro	Republic Croatia
	Market share in 2005.	Market share in 2005.	Market share in 2005.
Hypo Leasing	63 %	29,72 %	38,3 %
Raiffeisen Leasing	22 %	21,52 %	8,9 %
Volksbank Leasing	13 %	6,47 %	9 %
LB Leasing (CBS)	1 %	8,87 %	-
HVB Leasing	-	6,07 %	11 %
Euroleasing	1%	-	-
Other	-	27,35 %	32,8 %
Value of concluded contracts in 2005 in mil €	**185,025**	**401,050**	

From annul reports we can see following:

	jan - jun 2008	2007	2006	2005
	mil €	mil €	mil €	mil €
Vehicles	73,1	134,02	87,923	81,645
Equipment	45,4	89,466	58,258	78,214
Real estate	69,5	157,063	90,79	23,08
Other	1,4	6,556	2,004	2,08
UKUPNO/TOTAL	189,4	387,105	238,975	185,025

EU leasing trends

The relative importance of leasing and its contribution to the economy can be expressed in terms of what is referred to as a "penetration rate". This is calculated by taking new European leasing business as a proportion of European investment to calculate the share of investment financed by leasing.

Over past years, the European leasing penetration rate has risen steadily, reaching 19% at the end of 2006 (compared to just under 12% at the end of 2000). This uninterrupted growth is proof that leasing is continuing to gain in popularity as a method of finance in Europe and Leaseurope expects this to continue in the future.

Equipment lease finance in particular is an important source of funding, with leasing financing on average approximately 28% of equipment investment in Europe during 2006.

Preliminary results for European leasing show that leasing remained a key source of finance for businesses' investment needs in 2008.

Preliminary market data from Leaseurope reveals that the portfolio of leased assets in Europe at the end of the 2008 is estimated to be in the region of €780 billion, a 4.5% increase compared to the previous year.

Conclusion

In Bosnia and Herzegovina, a transitional country, lease is still being developed. The great leap has been done by establishing the Association whose effort contributed to developing appropriate legislative on both entities level and recently, on a national level.

Since IFRS/IAS were introduced in 2006, while period prior to this was covered by national standards, great effort was invested by professionals in charge so that every legal and accounting aspect of lease was introduced to public as clear and explicit as possible. New lease regulations by IASB are not considered so much positive here, and observed from the accountants and all of those who are trying to keep up with the trends through the data from financial reports point of view, certain changes would be very welcome.

Recession, whose profound consequences are just starting to surface in the world economy, has led to light decrease in number of lease business so it is expected that the total number of lease jobs will be less than expected for year 2008 and 2009.

However, it is indisputable that lease activities have major significance in business development in a transitional country as Bosnia and Herzegovina, where the enterprises are often blocked by lack of investment capital for equipment and further development. Having this fact in mind, all EU and world lease related changes should be carefully monitored and appropriately applied in Bosnia and Herzegovina economy.

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MATERIALITY DISCLOSURE THRESHOLDS AND DECISION-MAKING FOR ENVIRONMENTAL EVENTS

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Abstract

The accounting profession has been encouraged to develop standards and revise the notion of materiality with regard to environmental accounting (Victoria Parliament, Public Accounts and Estimates Committee, 1999, p. 85). With this in mind it would be useful to determine a materiality disclosure threshold that affects decision-making for environmental events. To determine an appropriate threshold 1882 participants were surveyed and valid responses were received from 876 (46.5%) respondents. A vignette describing an environmental event facing a company was provided to participants who were asked whether the event was deemed to be material and, secondly, would the event initiate an action or no action decision. Results indicate that user groups consider the environmental event to be material at a threshold of 6%. The determination of the event as material results in a 'no action' decision that suggests isolated events of this size

may not result in 'action' decisions. The experimental research approach is

limited by, the ability to generalize the findings and, the specific contextual

nature of the event. Determining the threshold for disclosing an

environmental event enables the establishment of regulated thresholds that

are indicative of the needs of users. The use of an experimental approach

reveals results regarding the decision-making process of users rather than

respondents stating preferences and as a consequence this study adds

constructively to the literature.

Introduction

The effect of environmental event materiality on the decision-making

process of users has received minor attention from researchers and

would be the logical investigative realm (Dierkes and Antal, 1985). The

differentiation between economic and environmental events has been

described as significant rather than material (Environmental

Accounting Taskforce, 1998). Notwithstanding the semantic difference

the benchmark criteria for disclosure of economic events is described

as; above 10% material to decisions; below 5% immaterial to decisions; and, between 5% and 10% preparer discretion is to be exercised (AASB 1031, 2004). This discretion may cause problems from the perspective of user decision-making in so much as several alternatives may result in less than satisfactory disclosure of events.

In this paper the decision process of users is examined by considering event significance (materiality) in the context of an 'action' or 'no action' decision outcome. A decision outcome may take into account a succession or string of events that affect an entity or if an event is considered significant an isolated event may result in an 'action' outcome. An in-isolation environmental clean-up event representing 6% of total revenue was provided to three user groups including shareholders, shareholder/environmentalists and environmentalists. The experimental research model employed evaluates the effect of a single or in-isolation event on the decision-making of users which has

implications for not only entity preparers but also regulators. The effect on the decision process is in terms of deeming the event significant in an environmental and economic context.

The paper is structured in the following manner. The literature review discusses decision usefulness, the decision process and event significance. The research method includes a description of the surveyed groups, experimental model and the material discretion matrix used to evaluate the decision and significance of preparer discretion. Results are discussed in terms of the effect on economic and environmental decisions. The conclusion describes the limitations, implications for users, preparers and regulators, and further research opportunities in the area.

Literature Review

Whilst it may be presumed that the objective of financial reporting is the provision of information to interested parties, the theoretical underpinning does not provide insights into users, their decisions or the presentation of information. Theories considered to be offering the social accounting and reporting researcher some insight have been drawn from social and political theory and include stakeholder theory, legitimacy theory and political economy theory. These theories are not seen as competing but rather as complementary (Gray et al. 1995). However, from the perspective of users, the theories, whilst providing some justification for the provision of accounting information to groups other than groups whose interest is predominantly economic, offer little in respect of what, why and how information is used for decision purposes. Rather, the theories are predominantly about the interaction of power between society, management and users.

Descriptions of the term 'decision usefulness' are embedded in accounting conceptual frameworks (AARF, SAC 2, 1990) that narrowly depict information useful for decisions as being only economic information as being decision useful. The concept of accountability through the antecedent term, stewardship, also has connotations of economic utility. The relationship between decision usefulness, accountability and stewardship is expressed by Stanton (1997, p. 684) and reflects the narrow perspective held of the purpose of reporting and accountability.

Decision usefulness is the primary objective for financial reporting, having consumed the objective of accountability (stewardship), so long held to be the justification for accounting. As an objective, decision usefulness reflects the utilitarian philosophy underlying most conceptual frameworks: concern is for the efficient allocation of resources which is in the interest of society as a whole. Accountability, on the other hand, reflects concern for some individual interest.

Accountability has been identified with a broader social as well as economic purpose that may well be the case with the notion of decision usefulness reflecting changing ideological attitudes and philosophies (Goldberg, 1965). The reflection by Stanton that accountability is 'concern for some individual interest' does not preclude that 'interest' being decision-making. It is contended that issues of accountability shape future thinking through retention of 'memories' and, therefore, affect the individual decision process (Chambers, 1966). Asking users what is useful for their decision-making seems to be a productive process that Dierkes and Antal (1985) identified.

In their seminal research into developing a model for environmental reporting Dierkes and Antal (1985) acknowledge this situation stating "that it is difficult for most people to envisage the potential usefulness and uses of a concept until it has been developed to a certain extent". Later in the paper it is stated that:

In practice, key individuals in business and academics in particular have postulated

information needs and determined how to meet them, with almost no attempts to obtain

*inputs and feedback from the potential target groups (*op cit*., p29).*

However, the decision-useful approach has its detractors. Gray *et al.*

(1996, p. 75) make the following statement:

Decision usefulness purports to describe the central characteristics of accounting in

general and financial statements in particular. To describe accounting as useful for

decisions is no more illuminating than describing a screwdriver as being useful for

digging a hole – it is better than nothing, and therefore useful, but hardly what one

might ideally like for such a task.

The subsequent issues arise from the above statement:

- That decision usefulness determines the characteristics and who shall participate in the use of financial statements.

- The usefulness of accounting for decision-making is deteriorating.

- Asking users to determine the usefulness of information is not a satisfactory research option.

The last issue, whilst not directly mentioned in the above statement, underpins prior discussion in Gray *et al.* (1996). Alternative terms to decision usefulness such as 'user utility' (Guthrie and Parker, 1990) and 'usefulness and use' (Dierkes and Antal, 1985) broaden the applicability of decision usefulness or user utility theory to include accounting for social and economic performance. This indicates that significant changes need to be made in areas such as accounting regulation and education. The changing demands on financial reporting, brought about by users interested not only in the economic performance of companies but also in the social performance, may present some interesting extensions to user utility theory.

The plurality of purpose presently in financial reporting between decision usefulness and accountability is a dilemma that regulators and the profession need to sort out. A decision usefulness approach that allows for alternative decisions other than financial is considered a possible extension to user utility theory.

An aspect of the decision process that is often disregarded is that the lack of action as a result of an event is a decision (no action decision). It could also be construed that an action may be in response to a single disclosure of an event or a succession of events. This may not necessarily result in action but merely form part of the memories of the users that, in the future, may combine with other signals to create an outcome (action decision). Making decisions regarding an entity is often a complex process and rather than use one source of information users may avail themselves of a range of information from diverse sources. These 'inputs' could be from external sources such as the state of world economies or from individual ideological

belief structures. The notion of decision useful often implies some immediate decision outcome or action. In many instances, useful information may not result in an immediate outcome but form part of a future decision process. Users are individuals and may consider information differently, one individual may consider that an event warrants some form of negative action, another may consider the event positively and still another may consider the same event to be irrelevant. Accountants can merely disclose events as accurately as possible, within the constraints mentioned above, without bias and allow users to make their own judgements (Chambers, 1966; Sterling, 1967; Houghton, 1989).

A key facet of an event being decision useful is its significance or materiality. The Environmental Accounting Taskforce (ICAA, 1998) chose the term 'significant' as an alternative concept to 'material' for environmental impacts of an entity. In conceptual framework projects a more legalistic description of materiality (AARF, SAC 3, 1990) that connects disclosure with a

consequence has been adopted as the following summation by Spacek

(1969, p. 447) sets out:

A material fact is a fact to which an average, reasonably prudent person would attach

importance in determining a course of conduct to be taken or followed upon learning

the fact, such as in deciding whether or not to buy or sell stock, or to lend or refuse to

lend money, or to cancel a loan.

The identified outcomes of 'determining a course of action' are identified as,

for example, buying or selling stock. Whilst supporting legalistic description

of materiality no accommodation is made for the decision that does not have

an outcome. Deciding whether to buy or sell shares involves a third

possibility which is to hold or to take no action. This particular decision,

while it involves no action and has no immediate consequences is, from the

user's point of view, the result of conscious and deliberate choice.

2584

Materiality guidelines (AASB 1031, 2004) describe an event that is less than 5% of the base amount as not material, whilst an event greater than 10% of the base amount would be considered material. An event or item falling between 5% and 10% of the base amount is material and the preparer, considering the nature of the event, would exercise judgement as to whether disclosure of the event is necessary. However, the preparer, following the guidelines, may consider that the nature of an event would not materially affect the decisions of users when, in fact, users in exercising their judgement may believe the information to be material. Unfortunately, if preparers make the decision not to disclose an event, then the utility of the information to users cannot be determined. The importance of research in this area to determine event significance (materiality) and thresholds, from a user perspective, would be valuable not only for users but also for preparers in determining disclosure of events in the range 5% to 10%.

The importance of the nature and size of an event has been acknowledged in the Australian Accounting Standards (AASB 1031, 2004). The type of event that should be disclosed is one that would materially affect the decisions of users. To assist in determining whether an event may affect the decisions of user threshold guidelines, as described above, are provided for preparers. The approach to materiality described above is reasonable in a legal context and practical from an accounting perspective because it provides clear threshold rules. Whilst providing regulators and accountants with workable arrangements the interests of users have received minimal attention. Materiality judgements are crucial in decision-making and failing to take account of user perspectives may render disclosures ineffectual for decision purposes. Conceptually, a broader description of materiality that includes the 'no immediate action alternative' would be desirable and can only improve disclosure of material events.

Deegan and Rankin (1997) asked shareholders, stockbrokers, analysts, academics, financial institutions and review organizations "whether environmental issues are material to their decisions concerning a company". The results indicate that a rather high percentage of the user groups surveyed would use environmental information (66.7%). The range between the economic-type decision groups (43.8%) and the non-economic-type decision groups (83.0%) is quite large. A study conducted by Faux (2002) asked users to indicate the threshold range for disclosure of environmental events. Five categories were provided: 0 – 3%; 4 – 6%; 7 – 9%; greater than 10%; and, should not be disclosed. 73.4% of users surveyed indicated that they would like disclosures to be made in the first two categories that is 0 – 6%. The difference between economic and non-economic user groups is blurred as a result of a mixed category but the economic user group indicated a preference for disclosure in the first two categories of 60.9%. Both the above studies suffer from respondents stating their preferences rather

than revealing results through a case scenario requiring respondents to make a decision. Deegan and Rankin (1997) requested that respondents indicate 'real needs' rather than a 'wish list' but never the less results are still stated.

Studying the relationship between the regulated determination of the deeming of a material event and users' determination as to the usefulness in their decision-making of the deeming would extend the literature. In the light of the above studies (Deegan and Rankin 1997, Faux 2002) and the recommendations of the Interim Report of the Inquiry into Environmental Accounting and Reporting (Public Accounts and Estimates Committee of the Parliament of Victoria 1999) this area of study would be particularly useful. The conceptual confusion over decision usefulness and accountability functions of entity disclosures only serves to make it more difficult to establish practical disclosure requirements that meet the needs of users, preparers and regulators.

The discussion of the disclosure of an event, from the preparer's perspective, provides three possible situations.

- **The event is greater than 10%, is significant and material, and therefore will have an action decision outcome.**

- **The event is in the 5-10% category and could be:**

  o **Not significant and not material with a no-action decision outcome.**

  o **Not significant and not material with an action decision outcome.**

  o **Significant and material with a no-action decision outcome.**

  o **Significant and material with an action decision outcome.**

- **The event is less than 5% is not significant or material and therefore will have no decision outcome.**

The preparer's decision in the first and third possibilities is prescribed

in the guidance provided in the commentary to AASB 1031 (2004) and,

therefore, quite clear. The second situation has several alternatives

that may result in less than satisfactory disclosure of events from a

user's perspective. The preparer's choice in deciding whether to

disclose the event results in certain outcomes for users that have been

described above. In Figure 1 the choices available to preparers are

presented in matrix form to enable visual identification of the

relationships that exist between event significance (materiality) and

users' decisions.

Take in Figure 1

The 'type 1' event occurrence is the non-disclosure of an event by

preparers and is unlikely to have an effect on users' decision-making.

The non-disclosure would therefore be justified. The 'nature' of the

event in terms of a 'type 2' situation is more relevant than the amount

being disclosed.   The significance (materiality) may not relate to the

magnitude of the event as AASB 1031 (2004, Para 4.1.3) states.

In deciding whether an item or an aggregate of items is material, the nature and amount

of the items usually need to be evaluated together. In particular circumstances, either

the nature or the amount of an item or an aggregate of items could be the determining

factor.

'Type 3' and 'type 4' events present preparers with a dilemma because

users have deemed the event to be significant. If preparers disclose

the event there is no problem. However, if the disclosure is not made

then an event that affects decision-making is not disclosed.

The issue becomes one of determining whether an environmental event

in the 5-10% category would be considered by users to be materially

significant and would the determination of significance cause an action

or no action decision.

Research Method

The use of an experimental model has the benefit of revealing user

intentions in a decision context whereas the studies of Deegan and

Rankin (1997) and Faux (2002) suffer from respondents stating their

preferences. However, generalizing the findings is constrained by the

lack of external validity when using an experimental model. Providing

participants with a clean-up environmental event is also problematic in

that there are numerous possibilities for describing an environmental

event. Considering the decision context as an isolated event rather

than a sequence or string of events may also weaken the findings.

However, the experimental model employed does explore the

relationship between event size and decision usefulness.

Two groups of users were surveyed in the experiment; shareholders

and environmentalists. Shareholder participants were randomly drawn

from the registries of three public companies, also selected at random,

from the top 50 companies listed on the Australian Stock Exchange.

The membership of a professional association of environmentalists

served as the database of environmentalists and all members were

surveyed. The survey was posted to 1882 participants and valid

responses were received from 876 (46.5%) respondents. Through a

filter in the survey a further group who exhibited characteristics of

both groups (shareholder/environmentalists) was established.

Shareholder responses were 253, shareholder/ environmentalists

amounted to 240 and responses from environmentalists were 383.

A description of an in-isolation environmental situation facing a

company was provided to participants in the form of a vignette and

they were asked whether the event was thought to be significant and

whether the event would initiate an action or no action response. The

vignette concerned a company facing a 'clean-up' event. The

description of the event was approximately 20 lines in length which

Milne and Chan (1999) describe as being the average length of an

environmental disclosure.

The detail of the vignette described an Australian retail petroleum

company that was listed on the Australian Stock Exchange and

confronted with a situation whereby a significant number of its city

petrol stations showed signs of deterioration. The vignette continued

with an explanation of the assessment and grading of contaminated

petrol stations that saw low and medium polluted sites sold at a loss

and clean-up of high polluted sites undertaken. The threshold for the

event was 6% and the nature of the event can be easily identified as

environmental allowing for the interpretation of the vignette and the

making of environmental and economic decisions. The questions

accompanying the vignette were as follows and allowed action and no

action decisions to be made:

- **Is the event described considered significant? (event significance)**

- **If no shares were held in the vignette company would you take an action on the basis of the environmental report? (environmental decision)**

- **If shares were held in the vignette company would you take an action on the basis of the environmental report? (economic decision)**

Results

The notion of expanding the user utility to include decisions other than financial was used in the possible response alternatives to the environmental and economic decisions. The environmental action decision provided a number of alternatives and the opportunity for respondents to

specify an action decision they may take. The action alternatives were all

coded one while the no action response was coded zero. The economic

action decision was to either reduce or increase the holding and either

response was coded one. The no action response was coded zero. The

relationship between event significance and the dichotomised response to

the environmental and economic decisions are described in Figure 1. The

analysis draws on the contentious discretionary disclosure of events in the

5% - 10% region discussed earlier.

To establish how many respondents were in each of the above categories a

cross-tabulation was constructed based on Figure 1 to take account of the

user group, whether the event was significant, and the decision outcome.

The results for the environmental decision of this analysis appear in Table I.

The cross-tabulation shows a rather high number of missing cases (176 or

20.01%). There were 35 or 13.8% missing shareholders, 50 or 20.8%

shareholder/environmentalists and 91 or 23.8% environmentalists.

Determining the significance (materiality) of the event and making both an environmental and economic decision with the same information acknowledges the flexibility of decision-making.

Take in Table I

The Type 1 situation is where users believe the event to be neither

materially significant to their decisions nor would they take any action. A

total of 13.6% of respondents identified a Type 1 occurrence. The largest

group within this category was shareholders (17.0%), followed by

shareholder/environmentalists (15.2%) and finally environmentalists (9.9%).

This perhaps reflects the greater concern of environmentalists.

Respondents supporting a Type 1 situation would support the company if it

chose not to disclose the event. This situation does not present a problem

for preparers; if they disclose the event there is no effect and if they do not

disclose the event there is no effect.

In the Type 2 scenario respondents deem the event not to be materially

significant but would take an action decision. The Type 2 situation would be

a concern in a decision context that is not in-isolation where the collective

effect of a succession of events, whilst not on their own significant, would,

at some stage, trigger a decision. However, this is not the case as the

situation is in-isolation and, therefore, it is difficult to interpret this result

even though it is quite low (2.9%).

The Type 3 situation, a materially significant event but no action

decision deemed necessary, is the choice of 52.1% of respondents and,

interestingly, the percentage of shareholders is 54.1%,

shareholder/environmentalists 53.7% and environmentalists 49.7%. The

vignette is an in-isolation event and it is difficult to determine the

reason why, having identified the event as significant, a no action

decision is taken. Perhaps the event is deemed important and will form

part of the 'memories' as Chambers (1966) suggests for a future

decision.

The Type 4 event is more easily interpreted, the event is significant and

an action decision is made. The Type 4 situation has been selected by

31.4% of respondents, 24.8% of shareholders, 29.5% of

shareholder/environmentalists and 37.7% of environmentalists. The trends in the Type 3 and 4 events support the interest of shareholder/environmentalists and environmentalists in an environmental decision. The intriguing result is the high percentage of shareholders (78.9%) that identify the environmental event as significant.

With regard to event significance and the environmental decision the cross-tabulation reveals that 83.5% (Type 3 + Type 4 total) of users believe the event is significant. This is an important finding given that the significance of the event is 6% and that the nature of the event is environmental and would support suggestions from the Inquiry (Victoria Parliament, Public Accounts and Estimates Committee, 1999) that environmental disclosures should be quantified at lower levels than those for financial reporting (AASB 1031, 2004). Even though a very high number of respondents identified the event as significant (material), 65.7% (Type 1 + Type 3 total) would take a

no action decision. This could mean that whilst respondents feel the event

is significant to decision-making they would like to wait and see what the

company does with similar events or perhaps they feel that the company's

actions are positive.

The results from the event significance and the economic decision appear in

Table II. The cross-tabulation has resulted in a much lower number of

missing cases than the environmental decision (92 or 10.5%). There were

19   or   7.5%   missing   shareholders,   33   or   13.8%

shareholder/environmentalists   and   40   or   4.6%   environmentalists.

Interestingly, there is very little difference between the totals for the

economic decision and those for the environmental decision.

Take in Table II

In the Type 1 situation 16.2% of shareholders, 10.6% of shareholder/environmentalists and 9.9% of environmentalists consider to be of little concern for the reasons previously mentioned as the event is deemed not materially significant and no action would be taken. As with the environmental decision, the Type 2 occurrence for the economic decision is difficult to interpret but it is very low across all groups.

The Type 3 situation identifies 54.7% of shareholders, 52.2% of shareholder/environmentalists and 46.9% of environmentalists as deeming the event significant but taking no action. The reason for the no action decision in this circumstance is once again difficult to interpret but perhaps the event size and nature does not warrant an immediate action. The Type 4 event is not a confusing outcome and results indicate that 24.4% of shareholders, 33.3% of shareholder/environmentalists and 41.5% of environmentalists chose this option.

The significance of the event with regard to the economic decision (86.4% = 50.6% + 34.2%) differs from the environmental decision (83.5% = 52.1% + 31.4%) only in the number of additional cases that have been included in Table II. The number of respondents that would take a no action decision was 62.6% (Type 1 + Type 2 total) opposed to 37.4% (Type 2 + Type 4 total) that would take an action decision. The majority of respondents once again chose a wait-and-see attitude.

A summary of the findings determining the environmental event material significance and decision outcome are as follows:

- Environmental decision; event significance (Type 3 + Type 4) 83.5% of users.

- Environmental decision; no action outcome (Type 1 + Type 3) 65.7% of users.

- **Economic decision; event significance (Type 3 + Type 4)**

  84.8% of users.

- **Economic decision; no action outcome (Type 1 + Type 3)**

  62.6% of users.

The results for the event described are conclusive and suggest that further consideration be given by preparers and regulators to environmental disclosures in the 5% - 10% range. The no action decision outcome reflects the need for more research on the decision process of users. Whilst statistical significance testing of the results may provide a level of certainty that descriptive statistics do not offer it is felt that the overwhelming results render further testing unnecessary.

Conclusion

Dierkes and Antal (1985) have suggested that whilst there is confusion regarding the best approach for deciding what and how to describe

environmental events, asking users of reports is considered as the most likely method to result in outcomes in terms of decision-making. The intention in this study was to investigate the relationship between event significance (materiality) and a decision context. Regulations require certain levels of disclosure for economic events, and a suggestion from an Inquiry (Victoria Parliament, Public Accounts and Estimates Committee, 1999) is that the accounting profession consider lower threshold levels for disclosing environmental events. Studies have considered the issue of material significance but have emphasised user preference rather than an experimental model which would indicate the relationships between decision-making and the material significance of events disclosed. The limitations of the experimental research approach have been discussed along with the ability of the findings to be generalised, the specific contextual nature of the vignette and that the event described in the vignette is in-isolation.

An interesting outcome from the analysis of the findings is that the differences between the results in Table 1 and Table 2 are relatively minor. The Type 1 situation difference between user groups, and the economic and environmental decisions, is mainly shareholder/environmentalists with a 4.6% variation. The Type 2 situation results are too small to be significant. The Type 3 occurrences main difference exists between environmentalists but once again is quite low at 2.8%. Differences exist between shareholder/environmentalists (3.8%) and environmentalists (3.8%) for the Type 4 situation but as with the other groups these results are relatively minor. This indicates that environmental information can be used for either environmental or economic decisions. The environmental event at 6% will affect both environmental and economic decisions in similar ways.

The findings indicate the importance of identifying no action as a decision response. Events between 5% and 10%, regardless of whether they are environmental or economic, need to be disclosed because they are deemed significant by the user groups investigated as affecting decision-making. The results indicate that an in-isolation environmental clean-up event with a 6% threshold will affect the decisions of users in terms of the event significance and taking a course of action. This is an interesting finding for regulators as it confirms the suggestion stemming from the Inquiry (Victoria Parliament, Public Accounts and Estimates Committee, 1999). Reporting entities should also be interested in the findings as it suggests they should be disclosing environmental events with much lower thresholds than 10%. The above points must be considered in the light of the study limitations. Further studies could consider, given the take no action decision, a sequence of various environmental events with a range of thresholds.

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Figure 1   Preparer Discretion at the 5-10% Event Disclosure Thresholds

Table I   Event Significance and Environmental Decision

Decision / Significance		No Action				Action			
		TYPE 1				TYPE 2			
Not	**User**	**S**	**S/E**	**E**	**Tot**	**S**	**S/E**	**E**	**Tot**
Significant	**N**	37	29	29	95	9	3	8	20
	%	17.0	15.2	9.9	13.6	4.1	1.6	2.7	2.9
		TYPE 3				TYPE 4			
Significant	**N**	118	102	145	365	54	56	110	220
	%	54.1	53.7	49.7	52.1	24.8	29.5	37.7	31.4

Table II   Event Significance and Economic Decision

Decision / Significance		No Action				Action			
		TYPE 1				TYPE 2			
Not	**User**	**S**	**S/E**	**E**	**Tot**	**S**	**S/E**	**E**	**Tot**
Significant	**N**	38	22	34	94	11	8	6	25
	%	16.2	10.6	9.9	12.0	4.7	3.9	1.7	3.2
		TYPE 3				TYPE 4			
Significant	**N**	128	108	161	397	57	69	142	268
	%	54.7	52.2	46.9	50.6	24.4	33.3	41.5	34.2

MATHEMATICS IN ACCOUNTING AS A BIG UNANSWERED QUESTION

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ABSTRACT

Mathematics has been employed in accounting for centuries. It was included in the double entry system in the Luca Pacioli's mathematics book but has not, so far, received appropriate attention in the development of modern accounting. The expanded accounting equation employed nowadays is considered a black-box, and there have been no significant improvements to the equation. This paper outlines the importance of the accounting equation in identifying the limitations of current accounting standards, particularly the definition of the elements of financial statements. Furthermore, this paper argues that the approach employed in the definitions of the elements of financial statements should be on the basis of information-base, instead of the use either the balance sheet or the income statement approach. Finally, the paper suggests that the application of mathematics in accounting be dealt with so that accounting will make a significant contribution to the academic world.

INTRODUCTION

The following question and statements in *Accounting Horizons* have

inspired this paper.

"What is the most important accounting issue where we either think
we understand it but in fact do not or have failed to consider the issue
in anywhere near the depth it deserves?" (*Panel on Big Unanswered
Questions in Accounting—Genesis*, Basu 2008, 426).

 "Rules are fundamental to financial reporting, tax regulation, and
auditing processes, and therefore the limitations of rule-based
structures are of primary interest to accountants." (*Rules and
Accounting:Vagueness in Conceptual Frameworks,* Penno 2008, 339)

"... (I)nnovation is essential.... (I)f it comes it will be from a small
number of scholars who are willing to thumb their noses at the status
quo."(*Is Accounting an Academic Discipline?,* Demski 2007, 156)

"We could, if we wanted, use the double entry system to illustrate
(and access) important theorems in mathematics ..." (*Is Accounting an
Academic Discipline?,* Fellingham 2007, 161)

This paper employs the mathematical perspective (especially the

expanded accounting equation) to reveal the incompleteness of current

accounting standards in the elements of financial statements. Next, this paper

states that efforts to develop accounting with a focus on the pillar of

mathematics have not been taken far enough and this remains a big

unanswered question.

This paper is presented in the following order. Firstly, it discusses the

current employment of mathematics in accounting. Secondly, it presents recent

developments in the construction of standards in the elements of financial

statements as undertaken by the Joint Project of International Accounting

Standards Board and Financial Accounting Standards Board (hereafter the Joint

Project IASB/FASB). Thirdly, it points out several examples of incompleteness

of standards in the elements of financial statements which are liable to make

the financial information incapable of reflecting the real business condition.

Fourthly, it proposes the use of an information-base (hereafter "infobase")

approach (another word for "database") to define the elements of financial

statements. Fifthly, it uses a mathematical perspective, especially the expanded

accounting equation, to meet two of some ideal objectives set up by the Joint

Project IASB/FASB. Finally, this paper claims that the disinterest in the central role of mathematics in accounting requires an immediate response.

THE USE OF MATHEMATICS IN ACCOUNTING

In *Summa de Arithmetica, Geometria, Proportioni et Proportionalita*, Luca Pacioli codified the double-entry systems which are based on the basic accounting equation Assets = Liabilities + Equity (Peters and Emery 1978). This basic accounting equation (BAE) maintains that the assets on the left side of the equation reflect resources, whereas the liabilities and equity on the right side of the equation reflect financing sources. The firm's resources should always be equal to its financing sources. Furthermore, revenues increase equity, while expenses decrease it. On the basis of these rationalities, modern accounting textbooks present an expanded accounting equation (EAE) as follows.

Assets = Liabilities + Equity + (Revenues – Expenses) ……. EAE Conventional

The authors argue that the rationality employed to explain BAE is

inconsistent with those employed to explain EAE, because expenses on the

right side of the equation are not financing sources. Instead, expenses should

represent the use of funds. Furthermore, the EAE can be presented as follows.

Assets + Expenses = Liabilities + Equity + Revenues ……. EAE Mathematics

We call this equation EAE Mathematics because "Pacioli, like other

mathematicians of his time, did his utmost to avoid even the use of a symbol for

minus, let alone a negative number." (Peters and Emery 1978, 426). Although

mathematically both are correct, so far we do not find accounting textbooks

which present the EAE Mathematics. The absence of accounting textbooks

which employ EAE Mathematics reflects accounting teaching methods which

simply emphasize rules.

The authors argue that it would be more fitting to employ EAE

Mathematics in the teaching of accounting. The use of EAE Mathematics may

explain the rules about debits and credits so logically and easily that the need

to memorize the rules is irrelevant. Furthermore, students may more easily

understand why assets and expenses have the same rules in debits and credits;

both elements represent the uses of funds. More importantly, the rationale

employed to explain EAE Mathematics is consistent with those employed to

explain BEA; the left side of the equation reflects the uses of funds, while the

right side reflects the sources of funds (Subramanyam and Wild 2009; Anthony

et al. 2007). Unfortunately, current accounting practices give more emphasis to

the development of rules rather than the development of mathematics, to the

effect that EAE Conventional is in greater use.

On the basis of EAE Mathematics, the teaching of accounting might

simulate various transactions made by the firm. For example, an increase in

expenses in the accounting equation followed by an increase in revenues may

occur if there is a transaction of service exchange (barter) between two service

firms. Likewise, an increase in expenses followed by an increase in equity may

occur if the firm issues shares paid in the form of the buyer's services. These

types of transactions cannot easily be found in accounting textbooks currently

available. In short, it can be inferred that accounting is actually based on

mathematics but accounting research and teaching nowadays do not fully or

adequately explain the central role of mathematics.

The accounting standards employ mathematics in defining the elements

of financial statements. Equity is defined as net assets, namely "the arithmetic

difference between assets and liabilities …" (Alfredson et al. 2007, 76).

Furthermore, revenues are conventionally defined as asset increases or liability

decreases (or a combination of both). Such a definition of revenues is based

purely on the accounting equation; increases in revenues (recognition of the

occurrence of revenues) on the right side of the accounting equation should be

followed by asset increases on the left side of the equation or followed by

liability decreases on the right side of the equation (or a combination of both) so

that a balance in the accounting equation would be maintained. Unfortunately,

the elements of financial statements, especially for revenues and expenses, are

not adequately defined to the effect that accounting runs the risk of providing

financial information which does not correctly represent the reality of business.

The limitation of accounting standards in defining the elements of financial

statements will be further discussed later in this paper.

STANDARDS IN THE ELEMENTS OF FINANCIAL STATEMENTS

The International Accounting Standards Committee (IASC) issued the

conceptual framework in 1989. It was based on FASB, which adopted the

balance sheet model of financial reporting (Camfferman and Zeff 2007). More

specifically, the definition of the elements of financial statements was based on

the perspective of assets (Alfredson et al. 2007). This happened because the

standards considered economic resources or assets as "central to the existence

and operations of an individual entity" (FASB 1985, par.11) and "the lifeblood of

a business enterprise" (FASB 1985, par.15). Furthermore, the IASC was

replaced by the International Accounting Standards Board (IASB) in 2001.

Currently the Joint Project IASB/FASB is redefining the elements of

financial statements. The Joint Project IASB/FASB tentatively adopted the

following working definitions of asset and liability as follows.

"An *asset* of an entity is a present economic resource to which the entity has a right or other access that others do not have." (IASB – FASB 2008, Asset Definition)

"A *liability* of an entity is a present economic obligation for which the entity is the obligor." (IASB – FASB 2008, Liability Definition)

Essentially the redefinition of the elements of asset and liability by the Joint Project IASB/FASB was still based on the same perspective, namely the balance sheet orientation (Dichev 2008).

So far the work of the Joint Project IASB/FASB is still continuing. The tentative definition of the elements of equity has not been issued. Several differences in the definition of other elements relating to equity will be discussed further as stated:

"The FASB Concepts Statements presently identify more elements than does the IASB Framework, and the two frameworks define differently those elements that are common. The Boards' approach will focus initially on converging and defining only those key elements that are defined today in the IASB and FASB Frameworks. As well, the Boards will need to consider the extent to which, and if so how, to define elements that are not defined today, such as comprehensive income." (IASB – FASB 2008, Next Steps – Other Elements)

Taking a close look at the definition of assets and liabilities made by the

Joint Project IASB/FASB, it is predicted that the Joint Project IASB/FASB's

efforts to define equity and other elements, including revenues – the IASB

refers to them as income – and expenses, would still be based on the

perspective of assets, unless the Boards "expand their effort to a more thorough

reassessment of their conceptual framework" (Dichev 2008, 454). In this case, it

is very likely that equity will be defined as net assets, and revenues and

expenses would be parts of the equity.

LIMITATIONS OF STANDARDS IN THE ELEMENTS OF FINANCIAL

STATEMENTS

The use of the asset perspective to define the other elements of financial

statements may result in an incomplete definition. In turn, accounting may

provide financial information which does not faithfully represent the company's

real condition. Many experts have revealed the inadequacy of accounting to

represent the reality of business (Ball 2008; Cheney 2009). Before pointing out

the limitations of defining the revenues and expenses, we would like to present

the definitions of revenues and expenses according to the FASB and IASC as

follows.

> "Revenues are inflows or other enhancements of assets of an entity or
> settlements of its liabilities (or a combination of both) from delivering
> or producing goods, rendering services, or other activities that
> constitute the entity's ongoing major or central operations." (FASB
> 1985, Par 78)

> "Income is increases in economic benefits during the accounting
> period in the form of inflows or enhancements of assets or decreases
> of liabilities that result in increases in equity, other than those relating
> to contributions from equity participants." (in Mirza et al. 2008)

> "Expenses are outflows or other using up of assets or incurrences of
> liabilities (or a combination of both) from delivering or producing
> goods, rendering services, or carrying out other activities that
> constitute the entity's ongoing major or central operations." (FASB
> 1985, Par 80)

> "Expenses are decreases in economic benefits during the accounting
> period in the form of outflows or depletions of assets or the incurrence
> of liabilities that result in decreases in equity, other than those
> relating to distributions to equity participants." (in Mirza et al. 2008)

The above definitions are substantially similar, namely that the recognition of revenues and expenses should be followed by changes in assets and/or liabilities. Such a definition disregards revenue/expense transactions that do not produce directly any change in assets/liabilities.

Below are two cases which reveal limitations in the standards of the elements of financial statements, especially related to the definitions of revenues and expenses.

Case I

Business event A: Merchandising firm Q, which is in the business of selling computers, and merchandising firm R, which is in the business of selling furniture, barter their merchandises. According to the standards, both merchandising firms Q and R recognize this business event as a revenue transaction, as in this event there is an increase of assets into each firm.

Business event B: Service firm S, which is in the information technology consultation business, and service firm T, which is in the accounting consultation business, barter their main services. According to the standards, both firms S and T should not recognize this business event as a revenue transaction because there is no increase of assets or decrease of liabilities in each of these firms. Accordingly this business event cannot be classified as a revenue transaction by either firm.

Business event C: Service firm S, which is in the accounting consultation business, is conducting barter with merchandising firm Q, which is in the business of selling computers. According to the standards, firm S should recognize this business event as a revenue transaction because there is an increase in assets in the form of computers. Firm Q, however, should not recognize this business event as a revenue transaction because there is neither an increase in assets nor decrease in liabilities even though firm Q delivers its services. This business event, therefore, is recognized as a transaction by firm S but cannot be recognized as such by firm Q.

Case 2

Business event D: Service firm V, which is in the business of advertisement, purchases a number of firm W's shares (with the intention to own them). The payment is made directly and fully in the form of advertising services delivered by firm V. Firm V should recognize this business event as a revenue transaction because there is an increase in assets in the form of share investment. According to the standards, however, firm W should not recognize this business event as an expense transaction because there is neither a decrease in assets nor an increase in liabilities as a result of this business event; what results is an increase in equity.

Business event E: Service firm X, which is in the business of TV advertising, distributes revenue dividends in the form of services to firm Y, which owns more than 20 percent of the company shares. On the announcement date, firm Y immediately utilizes the revenue dividends. According to the standards, firm X should not recognize this business event as a revenue transaction because there is neither an increase in assets nor a decrease in liabilities; what results

is an increase in dividends distribution. On the other hand, firm Y should

recognize this business event as an expense transaction because the firm

receives advertising services and there is a decrease in assets in the form of

share investment (equity method). Therefore this business event should be

recognized as an expense transaction by firm Y but should not be recognized

as a transaction by firm X.

The illustrative cases above are simulations of transactions that may

happen in business on the basis of the expanded accounting equation. In short,

the recognition of revenues can be balanced not only by increases in assets or

decreases in liabilities, but also by increases in expenses or decreases in

equity. Likewise, the recognition of expenses can be balanced by decreases in

assets, increases in liabilities, increases in equity, or increases in revenues.

Therefore, the current definitions of the elements of revenues (income) and

expenses are incomplete. This occurs because the standards argue that

revenues and expenses should make a direct impact on the assets and/or

liabilities. The inadequacy of the definitions of revenues and expenses is also

due to the placement of revenues and expenses under the category of equity.

An extended effect of the limitation of standards is the lack of accounting

textbooks that reveal the above transactions. This demonstrates that the

inadequacy of the standards is likely to result in a serious risk to teaching

because accounting rules "provide an alternative way to organize and frame the

teaching of accounting" (Fellingham 2007, 160).

REDEFINING THE ELEMENTS OF FINANCIAL STATEMENTS

One of the topics which is currently discussed in earnest by accounting

experts is the approach that should be adopted in constructing financial

statements (Haka 2009). Current standards have opted for the balance sheet

approach, while some others suggest the use of income statement approach

(see Dichev 2008; AAA FASC 2007). First and foremost, financial accounting

should provide financial information, not just the balance sheet and income

statement. Therefore, standards determined by the use of one perspective are

likely to underestimate the importance of other perspectives. As demonstrated

above, the use of the balance sheet perspective has rendered as un-coverable

a large number of business events significantly related to revenues and

expenses. Likewise, the use of the income statement approach is likely to

underestimate the importance of business events related to assets, liabilities,

and equity.

To solve the problems related to the use of appropriate approaches in

the definition of the elements of financial statements, we can take a lesson from

the approach employed in data management. Early in the development of the

computer, data management employed a file-oriented approach, which tied the

data to the application that produced them. As a consequence, in order to

access particular data with other applications the data must be converted first.

The conversion process may cause changes to the original data. This file-

oriented system was considered inefficient, highly susceptible to errors,

redundant, etc (Wilkinson et al. 2000). Modern data management uses a

database approach, which separates data from the application that produced

them. This approach makes it possible to produce data which are standardized,

consistent, and integrated (Romney and Steinhart 2009). An analogy can be

made between the use of the balance sheet or income statement approach and

the file-oriented approach.

Mathematically, the expanded accounting equation shows that the

elements of assets, expenses, liabilities, equity, and revenues are on the same

level. The placement of one element above another element is inconsistent with

the accounting equation. Therefore, we argue that the approach employed in

the definitions of the elements of financial statements should be on the basis of

an "infobase" (another word for "database," which is already common in the

literature of information systems), instead of the use either the balance sheet or

the income statement approach. With this "infobase" approach, the elements of

financial statements are not tied to the financial information which has been

produced. It is only at the end of the accounting period that these elements are

designed to produce financial statements.

The equation of Assets + Expenses = Liabilities + Equity + Revenues

indicates that the left side of the equation reflects the uses of funds, while the

right side of the equation reflects the sources of funds. Compared with the

rationale currently employed in EAE, the authors argue that the above rationale

is more consistent and acceptable. That rationale should, therefore, be

employed in defining each element of financial statements. Besides, the current

definition of the elements of financial statements is mechanistic rather than

substantive, especially for the definitions of the elements of equity, revenues

(income) and expenses. The mechanistic definition is not flexible enough for

future development, and is incapable of providing any information about the

subject to be defined.

Using the "infobase" approach, below are the definitions of the elements

of financial statement are:

a. Assets are uses of funds in the form of resources whose economic value

can still be utilized in the future

b. Expenses are uses of funds in the form of resources whose economic

value has been utilized for the firm's activities within a particular period

c. Liabilities are sources of funds from third parties acting as creditors

d. Equity is sources of funds from the company's owner, retained earnings

(accumulated profits), and sources other than creditors

e. Revenues are sources of funds from the firm's activities within a

particular period

This definition of elements of financial statements is more abstract, and covers

many more business events than the current mechanistic definition allows for.

MATHEMATICS AS A BIG UNANSWERED QUESTION

Written documents show that accounting was included in Luca Pacioli's

mathematic book (Sangster et al. 2007). In its historical progress, however,

accounting has developed a focus on rules (Penno 2008). A large number of

rules have been issued to the effect that accounting was well-known as a

regulatory enterprise (AAA FASC 2007). Nevertheless, the development of rules

cannot completely protect the users of accounting information (Scott 2009).

Beside the focus on the development of rules, accounting has also developed

an emphasis on vocational skills. The teaching of accounting, as a result, has

focused largely on vocational skills (Demski 2007), with little contribution to the

academic world (Fellingham 2007).

"Financial reporting is not an end in itself. It is a means of

communicating to the users of financial reports information that is useful in

making choices among alternative uses of scarce resources" (FASB 2006, OB6)

and "the objective of general purpose financial reporting is to provide financial

information . . ." (FASB 2008, OB2). Thus, financial accounting is a tool to be

used to provide financial information. As a tool, accounting should be of the

same nature as computing, aircraft technology, etc. All these technologies

require established knowledge in order to function effectively; to give the best

possible contribution to humanity, and to allow for continuous development. The

authors argue that three major pillars should be developed in a balanced

manner to enable accounting to be an academic discipline, namely mathematics,

rules, and vocational skills. The Joint Project IASB/FASB has been developing

the Conceptual Framework for Financial Reporting that underlies financial

reporting. Several topics are still debated up to the present. These debated

topics usually come to tore when choosing among two extreme points which

appear utterly irreconcilable but which eventually must be accommodated in

order to serve the interests of all parties involved. For example, the Joint

Project IASB/FASB originally stated in the Preliminary Views of the Conceptual

Framework for Financial Reporting that the potential users of financial reports

include equity investors, creditors, suppliers, employees, customers,

governments and their agencies and regulatory bodies, and members of the

public (FASB 2006, OB6). Later, the Joint Project IASB/FASB revised the

objective of external financial reporting is to provide information that is useful

for capital providers including equity investors, lenders, and other creditors

(FASB 2008, OB6).

Through development of the accounting equation, several objectives of

the Joint Project may be achieved. Below are two of the Joint Project

IASB/FASB's objectives as mentioned in the Preliminary Reviews of the

Conceptual Framework (FASB 2006).

Objective A: The objective of external financial reporting is directed to the

needs of a wide range of users. As long as all sources of funds other than

liabilities are contained in one element, namely the equity, it will be difficult for

financial reporting to provide information which is useful to users other than

equity investors and creditors. As the equity contains various sources of funds

then the quality of information coming from the element may decrease. For

example, current financial reporting is unable to provide a representative picture

of the long-term contribution of the management to the company because their

performance is periodically moved into the equity. We argue that this could be

the reason for the emergence of conflicts between principals and agents.

Likewise, current financial reporting is unable to provide information which is

specific about governmental subsidies, donations or facilities received by the

firm, as the information about governmental support is mixed up with

information about other sources of funds in one big basket called "equity". In

this information era firms need information that is more detailed and

comprehensive in order to make informed decisions.

Had the accounting equation consisted of elements that represented

specific types of users, then information that is useful to a wide range of users

might have been produced. The accounting equation could be developed along

the line of, for instance, Asset + Expenses = Liabilities + Owner's Capital +

Revenues + Management Contribution (accumulated profits) + Governmental

Fund + Residual Sources.

Objective B: The qualitative characteristics of financial reporting information

should be relevance, faithful representation, comparability, and

understandability. As long as the elements of accounting equation consist of

financial information employing various measurements, then it will be difficult to

fulfill these qualitative requirements. For example, when assets cover several

accounts that employ some measures then the assets are unable to fully meet

both the characteristics of relevance and faithful representation. Likewise, the

use of various measurements in one element may weaken the comparability

and understandability of the financial reporting. This applies also to other

elements in the accounting equation, both in the element of balance sheet and

in that of income statements.

Had the accounting equation consisted of various elements containing

information measured with the same (homogenous) measuring tool, the

accounting information produced may acquire the long-awaited characteristics

of relevance, faithful representation, comparability, and understandability. For

instance, the elements of assets are divided into two, namely value-based

assets and historical-cost assets, and the elements of expenses are divided into

two, namely accrual-based expenses and cash-based expenses. Elements of

the value-based assets reflect the provision of information which is relevant for

decision-making, while the elements of historical-cost assets reflect information

which is relevant for faithful representation.

CONCLUSION AND EXPECTATION

The same thing, perceived differently, may produce different results. Unfortunately, this happens in accounting. The development of financial accounting with an overemphasis on rules has limited accounting simply to the "rules of the game", especially in the stock market. The use of a mathematical perspective, especially the accounting equation, reveals the limitations of the current standards in defining elements of financial statements. This paper also briefly discusses the use of the mathematical perspective to achieve the ideal objectives expected by the Joint Project IASB/FASB.

Accounting should use widely applied mathematical theorems. As a preliminary step, we should identify and discuss several persistent questions and problems, including standards, by using the mathematics perspective. Subsequently, the development of accounting along the line of the three major pillars, namely mathematics, rules, and vocational skills, should be undertaken in a balanced manner. In turn, as in computer technology, accounting should be

able not only to function as a supporting tool to portray the reality of business,

but also to function as an enabler and transformer.

More than 80 years ago Henry Rand Hatfield (1924) believed that double

entry accounting –which is an application of mathematical theorems –

constituted a significant intellectual contribution to the world (in Fellingham

2007). Now it has become our duty to develop the accounting equation in such

a way as to enable accounting to make a significant contribution to the

development of the academic world.

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REVISIONS OF MANAGEMENT FORECASTS AND EARNINGS MANAGEMENT
UNDER THE TOYOTA PRODUCTION SYSTEM IN THE JAPANESE AUTOMOBILE INDUSTRY

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Abstract

The Toyota Production System (TPS) has been widely used in the Japanese automobile industry. The TPS has a check mechanism for restraining earnings management. Does use of the TPS prevent earnings management? We examine the income smoothing behavior based on inventory and the revision behavior of management forecast in the Japanese automobile industry. Based on eight years of recent financial data, we clearly identify possible income smoothing behavior under the potential handling of discretionary day's inventory (= inventory÷sales×365) and find possible pessimistic(optimistic) revision behavior of management forecast with large increase(decrease) of discretionary accruals. Although we found such two behaviors in most of the groups studied, we could not identify above two behaviors in the Toyota group. The TPS may prevent earnings management based on inventory and accruals only in Toyota Group under the order-driven Toyota Production System.

Keywords : revision of management forecasts, earnings management, discretionary day's inventory, Toyota Production System

1. Skewed distribution of net income

   Yoshida and Kunimura (2008) examined the cross-sectional distribution of net income of listed firms in the Tokyo Securities Exchange and showed four cross-sectional distributions of net income scaled by beginning total assets, as seen in Figure 1. In Japan, a so-called "accounting big bang" occurred in 1999. At that time, the main financial statements changed from parent company financial statements to consolidated financial statements. Panels a and c of Figure 1 show the large change of distribution from the period before the accounting big bang from 1991 to 1998 to the period after the accounting big bang from 1999 to 2006. The low frequency of net income in the left-hand side of zero net income in Panel c and the high frequency of net income in the right-hand side shows the loss avoidance behavior after the accounting big bang in the consolidated financial statements. The change shows the strong impact of the accounting big bang in Japan. Both Panels b and d of parent company financial statements show a large skew and do not show a change from the distribution in the period before the accounting big bang to the distribution in the period after the accounting big bang. The old statements remain important.

   The data in Figure 1 imply that the firm with potential losses in the bottom line of their income statement is apt to manipulate the bottom line from losses to small profit. Skewed distribution is the evidence of management behavior designed to avoid losses.

   Skewed net income may be a result of management earnings. However, we want to identify the cause of earnings management designed to find and improve the real activity in question. In this paper we examine earnings management through real activities manipulation of inventory in consolidated financial statements.

   <figure 1>

2. Inventory manipulation

In this paper we examine earnings management through real activities of inventory. An increase of inventory does not necessarily lead to an increase in net income. Therefore, we must first show the case of an income increase that occurs when inventory increases. Overproduction sometimes intentionally results in lower cost of goods sold than usual and increases profit (Roychowdhury, 2006) through lower fixed overhead costs per unit. For example, top management hesitates to stop production lines under a lower level of realized sales than budgetary planned sales and artificially keeps the production level constant with unwelcome overproduction, that is, with a large amount of unnecessary inventory. In this case, a lower allocation rate of fixed overhead costs than necessary to meet expected demand results in higher inventory costs and higher net income. For instance, if the cost of goods sold is 9,000 units, inventory is 1,000 units (finished goods base), and fixed overhead cost is 1,200 million yen, then the allocation amount of the fixed overhead cost to inventory is 120 million yen ($1,000 \div (9,000+1,000) \times 1,200 = 120$). If overproduction leads to 3,000 units, the allocation amount is 300 million yen ($3,000 \div (9,000 + 3,000) \times 1,200 = 300$). *Ceteris paribus*, the cost of inventory increases 180 million yen. The net income also increases by the same amount. We can exhibit many traditional manipulations on inventory which are not illegal but are highly strategic or intentional, such as the manipulation of the quality standard of a product, changing the accounting valuation procedure from FIFO to LIFO under an inflation period of time, and so on.

Managers can also decrease their profit from adverse manipulations, such as from slim production, applying strict quality standards, changing from LIFO to FIFO, and so on. We find such relationships between earnings and inventory that an inventory increase usually leads to an earnings increase and, usually, an inventory decrease results in an earnings decrease. It is assumed that inventory change may be utilized as a typical component of income smoothing.

On the other hand, the Just-In-Time system that is part of the Toyota Production System requires "order-driven-production" Then, the JIT system has a check mechanism for restraining income smoothing by inventory change.

Do managers have an incentive to use this relationship for income smoothing even under the Just-In-Time system in the Japanese automobile industry? The purpose of my research is to answer this question.

3. Discretionary models and the income smoothing hypotheses

3.1 Discretionary accruals : the Modified DJ model

Healy (1985) defined accruals as the difference between net income and cash flow from operations, as follows:

$$
\text{Total Accruals } (TA) = \text{Net Income } (NI)
$$
$$
- \text{ Cash Flow from Operation } (CFO) \cdot \cdot \cdot \cdot \cdot \cdot \cdot (1)
$$

Discretionary accruals as total accruals minus non-discretionary accruals that are a normal part of accruals reflecting working capital circulation, as follows:

$$
\text{Discretionary Accruals } (DA) = \text{Total Accruals } (TA) - \text{Non-discretionary Accruals}
$$
$$
(NDA) \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot (2)
$$

However, what is called the normal part of accruals is not clear. Healy applied the average value of five years of accruals, while DeAngelo (1986) used accruals from the last year. Jones (1991) regressed accruals on sales. In this study we use the new data of cash flow from operations only applicable for eight years. we have to avoid data loss from estimating the normal discretionary part and we choose to adopt DeAngelo's assumption. Next, we assume that accruals change proportionally to sales. This assumption is a simple application of Jones (1991), and thus we call my discretionary accruals model the Modified DJ model.

Discretionary accruals: the Modified DJ model

$$DA_t \quad /S_t = TA_t \quad /S_t \quad - \quad TA_{t\text{-}1}/S_{t\text{-}1} \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot (3)$$

3.2 Discretionary day's inventory

This paper focuses on the day's inventory (= inventory÷sales×365) when examining the relationships between the introduction of the JIT System and income smoothing behavior by managers. Changes in the discretionary day's inventory ($\varDelta\varDelta INV_t /S_t$) may be a main component of discretionary accruals. The day's inventory change ($\varDelta INV_t /S_t$) is a negative component of cash flow from operations in cash flow statements, and cash flow from operation is a negative component of accruals (equation(1)). In this case the relationship between accruals and the day's inventory change is positive. The positive relationship may introduce a change in the discretionary day's inventory in equation (4) from the discretionary accruals of equation (3), as follows:

Discretionary day's inventory change: the Modified DJ・S model
$$D\varDelta INV_t /S_t = \varDelta INV_t /S_t - \varDelta INV_{t\text{-}1}/S_{t\text{-}1} \quad \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot (4)$$

Strictly speaking, a more exact relationship exists between the day's inventory and the cost of goods sold. We also define the discretionary day's inventory (= inventory÷cost of goods sold×365) as a main component of accruals, as follows:

Discretionary day's inventory change: the Modified DJ・C model
$$D\varDelta INV_t /C_t = \varDelta INV_t /C_t - \varDelta INV_{t\text{-}1}/C_{t\text{-}1} \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot (5)$$

We cannot identify prior earnings before earnings management, and it is difficult to classify a firm-year an income increasing firm-year or an income decreasing firm-year by using post earnings after earnings management. We focus on the cash flow from operations, which is sometimes called hard profit. We introduce the following assumptions and hypotheses.

3.3 Partition assumptions and the income smoothing hypotheses

partition assumptions

A firm-year with an earnings increase before potential earnings management is assumed to have positive ⊿CFO.

A firm-year with an earnings decrease before potential earnings management is assumed to have negative ⊿CFO.

Hypothesis 1: Discretionary Accruals (DA/S)

A firm-year makes income smooth by using discretionary accruals.

Type a: conservative accounting

Positive ⊿CFO leads to negative discretionary accruals (DA/S).

Type b: window dressing

Negative ⊿CFO leads to positive discretionary accruals (DA/S).

Null Hypothesis 1

H1. There is no difference in mean values of discretionary accruals (DA/S) between the positive ⊿CFO Group and negative ⊿CFO Group。

Hypothesis 2: Discretionary Day's Inventory Change (D⊿INV/S or D⊿INV/C).

A firm-year makes income smooth by using the discretionary day's inventory change.

Type A: conservative accounting

Positive ⊿CFO leads to a negative discretionary day's inventory change (D⊿INV/S or D⊿INV/C).

Type B: window dressing

Negative ⊿CFO leads to a positive discretionary day's inventory change (D⊿INV/S or D⊿INV/C).

Null Hypothesis 2

H2S. There is no difference in mean values of the discretionary day's inventory change (D⊿INV/S) between the positive ⊿CFO Group and negative ⊿CFO Group。

H2C. There is no difference in mean values of the discretionary day's inventory change (D⊿INV/C) between the positive ⊿CFO Group and negative ⊿CFO Group。

We divide the firm-years sample into two groups for testing my two hypotheses. We call the positive firm-year group with a positive increment of cash flow from operations the positive ⊿CFO Group and the negative firm-year group with a negative increment of cash flow from operations the negative ⊿CFO Group.

The above null hypothesis does not directly test the income smoothing hypothesis, but it does test a symptom of the income smoothing by using the discretionary day's inventory change. Here we dismiss the problem of errors in variables on cash flow from operations by using sales (or cost of goods sold) deflating CFO as the explanatory variables for testing the null hypotheses.

4. Data and day's inventory

4.1 Data

We sample all 57 firms of the Japanese automobile industry listed on the first section of the Tokyo Stock Exchange from fiscal year March 2000 to fiscal year March 2008 in the Nikkei Needs Database. We classify these 57 firms into 26 firms of the Toyota group and 31 firms of other groups based on both capital-holdings and sales-production relationships. We can use only eight fiscal years' data after the accounting big bang in 1999, since we can use cash flow from operations in the cash flow statements. We have samples of 456 firm-years (57 firms×8 years), because the first-year data of cash flow from operations is utilized for the difference calculation.

4.2　Day's inventory : descriptive statistics

Table 1 shows the day's inventory (inventory/sales×365) of 456 firm-years in the Japanese automobile industry from fiscal year 2000 to fiscal year 2007. In this period of time the industry enjoyed aggressive direct investment in foreign countries with the gradual growth of overseas sales and profit.

The average value of a day's inventory in the parent company is 16.247 days, and the median is 13.640 days. These days nearly correspond to the period of time from the customer order to delivery to the customer in domestic sales. The average value of a day's inventory in consolidated financial statements is 26.569 days, and the median is 25.426 days. These periods of time may approximately correspond to above two weeks and another 10 days which may be necessary for shipping finished cars and their parts by balloon ships or other cargo ships. In particular, the average days of a day's finished goods and a day's raw materials are high and show, respectively, 11.136 days and 7.968 days in consolidated financial statements, mainly because of the shipping period.

< Table 1 Day's Inventory >

4.3   The discretionary day's inventory change: spread sheet

The main variable to be analyzed is the discretionary day's inventory change (D⊿INV/S). We will examine the relationships between profitability, which is surrogated by cash flow from operations change (⊿CFO) and the discretionary day's inventory change (D⊿INV/S). Table 2 is a sample spreadsheet of Nissan Motor for testing hypotheses. If ⊿CFO is positive, discretionary accruals (DA/S) and discretionary day's inventory change (D⊿INV/S) can be expected to be negative under possible conservative accounting by managers. We call these conditions "Type a" for DA/S and "Type A" for D⊿INV/S. For example, the entry for the fiscal year of March 2007 in Table 2 shows negative 11.93 days of DA/S, which corresponds to a positive ⊿CFO(1,043-758). If ⊿CFO is negative, discretionary accruals (DA/S) and the discretionary day's inventory change (D⊿INV/S) will be assumed to be positive under potential window dressing or under plausible gain trading for increasing income. We call these conditions "Type b" and "Type B". For example, the entry for the fiscal year of March 2005 in Table 2 shows positive 18.58 days of DA/S, which corresponds to a negative ⊿CFO(369-797). The above four relationships can be identified for all firm-years except for DA/S in fiscal year 2008 and for INV/S in 2004.

We can clearly identify "a big bath" by the huge negative 57.94 days of DA/S in fiscal year of March 2000 when the new COE Mr. Ghosn started his reform of Nissan Motor. In the following year, Table 2 shows a "V character recovery" of net income of 331 billion yen with a big positive 73.98 days of DA/S. However, the discretionary day's inventory change (D⊿INV/S) modestly exhibits positive 0.35 days, which is a much smaller number of days than the 73.98 days of discretionary accruals (DA/S) in 2001. This discretionary accruals behavior may explain the true story of "the Nissan's miracle recovery".

< Table 2 Nissan >

5. Income smoothing results

5.1 Comparison of the positive ⊿CFO Group with the negative ⊿CFO Group in the discretionary accruals

  We will examine the following null hypothesis in this section:
H1. There is no difference in mean values of discretionary accruals (DA/S) between the positive ⊿CFO Group and negative ⊿CFO Group。

  Table 3 exhibits a clear difference of the positive ⊿CFO Group with the negative ⊿CFO Group in mean values of discretionary accruals (DA/S) on the total sample, Toyota group, and other groups. Positive ⊿CFO may lead to negative discretionary accruals (DA/S) under conservative accounting. Negative ⊿CFO may lead to positive discretionary accruals (DA/S) under window dressing accounting. In the case of the total sample, Table 3 shows the negative 3.850 days in positive ⊿CFO and positive 8.934days in negative ⊿CFO. The high t value more than two and the low p value less than one percent in Table 3 tell us that H1 is rejected at the one percent significance level. In that case it is assumed that discretionary accruals may make use of possible income smoothing.

  Positive ⊿CFO results in negative 3.829 days of discretionary accruals (DA/S) and negative ⊿CFO results in positive 9.757 days of discretionary accruals (DA/S) in the Toyota group. Positive ⊿CFO results in negative 3.869 days of discretionary accruals (DA/S) and negative ⊿CFO results in positive 8.314 days of discretionary

accruals (DA/S) on other groups. We find no clear difference between the Toyota group and other groups. Why.

< Table 3 >

The concept of discretionary accruals has a strong power for detecting earnings management, but it is artificial for improving the business cycle. Next we apply this concept to the day's inventory.

5.2   Comparison of the positive ⊿CFO Group with the negative ⊿CFO Group in the discretionary day's inventory change based on sales

In this section we will test the following null hypothesis:

H2S. There is no difference in mean values of the discretionary day's inventory change (D⊿INV/S) between the positive ⊿CFO Group and negative ⊿CFO Group.

Table 4 shows the difference of positive ⊿CFO Group with negative ⊿CFO Group in mean values of the discretionary day's inventory change (D⊿INV/S) on the total sample and other groups. In the case of the total sample, Table 4 shows the negative 0.242 days in positive ⊿CFO and positive 1.16 days in negative ⊿CFO. The t value more than two and the low p value less than one percent in Table 4 tell us that the H2S is rejected at the one percent significance level. In this case it is assumed that discretionary accruals may make use of possible income smoothing.

Positive ⊿CFO results in positive (not negative) 0.046 days of the discretionary day's inventory change (D⊿INV/S) and negative ⊿CFO results in positive 0.528 days of the discretionary day's inventory change (D⊿INV/S) in the Toyota group. Positive ⊿CFO results in negative 0.500 days of discretionary accruals (DA/S) and negative ⊿CFO results in positive 1.635 days of the discretionary day's inventory change (D⊿INV/S) on other groups. The comparison of the Toyota group with other groups shows a different sign of discretionary day's inventory change (D⊿INV/S). The Toyota group in positive ⊿CFO is not negative but is positive 0.046 days. Positive ⊿CFO does not lead to a negative discretionary day's inventory change (D⊿INV/S) in the Toyota group. The t value of 1,055 and the p

value of 0.146 in Table 4 tell us that the H2S is rejected at the ten percent significance level. In this case the discretionary day's inventory change (D⊿INV/S) might be used for possible income smoothing. I find a clear difference between the Toyota group and other groups.

Additionally we will test the following null hypothesis:

H2S1. (H2S2, H2S3) There is no difference in mean values of the discretionary day's finished goods （or work in process or raw materials）change between the positive ⊿CFO Group and the negative ⊿CFO Group。

The above difference is clearer in the case of the components of inventory, that is, finished goods, work in process, and raw materials. Table 4 rejects these null hypotheses at the ten percent significance level for finished goods (t value is positive), work in process (p value is 0.088), and raw materials (p value is 0.442) in the Toyota group, and they show clear evidence of income smoothing by finished goods, work in process, and raw materials on other groups.

＜　Table 4　＞

5.3 Comparison of a positive　⊿CFO Group　with a negative　⊿CFO Group in the discretionary day's inventory change based on cost of goods sold

This section will show the result of testing the following null hypothesis:

H2C. There is no difference in mean values of the discretionary day's inventory change (D⊿INV/C) between the positive　⊿CFO Group and negative　⊿CFO Group。

In the case of the total sample, Table 5 shows the negative 0.124 days in the positive ⊿CFO and positive 1.211 days in the negative ⊿CFO. The t value more than two and the low p value less than one percent in Table 5 tell us that the H2C is rejected at the one percent significance level.

Positive ⊿CFO results in positive (not negative) 0.152 days of the discretionary day's inventory change (D⊿INV/S) and negative ⊿CFO results in positive 0.476 days of the discretionary day's inventory change (D⊿INV/S) in the Toyota group. Positive ⊿CFO results in negative 0.370 days of discretionary accruals (DA/S) and negative ⊿CFO results in positive 1.763 days of the discretionary day's inventory change (D⊿INV/C) in other groups. The t value of 0.561 and the p value of 0.288

in Table 5 tell us that the H2C is not rejected at the ten percent significance level. Additionally, we will test the following null hypothesis:

   H2C1 (H2C2, HC3) There is no difference in mean values of the discretionary day's finished goods（or work in process or raw materials）change between the positive ⊿CFO Group and negative ⊿CFO Group components of inventory, that is, finished goods, work in process, and raw materials.

   Table 6 does not reject the null hypotheses at the ten percent significance level for finished goods (t value is positive), work in process (p value is 0.175), and raw materials (p value is 0.465) in the Toyota group. On the contrary, the table shows clear evidence of income smoothing by finished goods, work in process, and raw materials in other groups.

＜ Table 5 ＞

6. Limitation

   We identify positive ⊿CFO results in negative days of discretionary accruals (DA/S) and negative ⊿CFO results in positive days of discretionary accruals (DA/S) in the Toyota group. Positive ⊿CFO results in negative days of discretionary accruals (DA/S) and negative ⊿CFO results in positive days of discretionary accruals (DA/S) on other groups. We find no clear difference between the Toyota group and other groups. Why. The concept of discretionary accruals has a strong power for detecting earnings management, but it is artificial for improving the business cycle and the relationship between ⊿CFO and DA is self-evidently negative by definition of accruals equation (1).

   Then we apply this concept to the day's inventory. We identify the symptom of income smoothing behavior by possible handling of the day's inventory in the Japanese automobile industry, excluding the Toyota group. The discretionary day's inventory is explained by income smoothing behavior of managers in groups other than the Toyota group. However, generally speaking, in the less profitable period of time with negative ⊿CFO, the day's inventory (inventory/sales) may

increase because of the inventory increase and sales decrease, and in contrast, in the more profitable period of time with positive ⊿CFO, the day's inventory may decrease because of the inventory decrease and sales increase. This relationship can be said as the self-evident automatic earnings stabilizing system under the over-production hypothesis. We find an interesting fact that the TPS including JIT System of the Toyota group under order-driven TPS is more powerful than the stabilizing system. Under the following sections, we want to answer the question of why the Toyota group shows stronger prevailing power against income smoothing than other groups introducing the revision information of management forecast.

7, Discretionary accruals and the revision of management forecast

7.1 Partition by management forecasts

We usually find management earnings forecasts at three times in May, November and next March for the fiscal year end by March 31 by firm's summary management letter at the news-paper-crab in the Tokyo Securities Exchange.

   We define three partitions for revision of management forecasts as follows.
Partition for November revision = earnings forecasts at May – earnings forecast at September (b Panel of Table 6)
Partition for March revision = earnings forecasts at May – earnings forecast at March (c Panel of Table 6)
Partition for May announcement = earnings forecasts at May – actual financial statements earnings at May(a Panel of Table 6)

   These partitions will divide optimistic firms which announce larger forecasts of net income at May than following revision to pessimistic firms which announce smaller forecast of net income at May than following revisions.

   Kato, Skinner and Kunimura(2009 September, *Accounting Review*) finds that managers of firms with the worst profitability set the most optimistic forecasts for the next year. They find that managers who release initial earnings forecasts that are overly optimistic in one year are also likely to release overly optimistic forecasts the next year. They find difference from US data that in Japan, where

litigation is not a factor, managers can "walk down" forecasts more explicitly. We introduce new hypotheses on management forecasts.

7.2 Hypothesis 5: Discretionary Accruals (DA/S)

A pessimistic (optimistic) firm-year increases (decreases) income by increasing (decreasing) discretionary accruals.

Null Hypothesis 6. There is no difference in mean values of discretionary accruals (DA/S) between the pessimistic Group and optimistic Group.

7.3 Results

We compare pessimistic Group with optimistic Group in the discretionary accruals. Then, we will test the following null hypothesis:

H2S. There is no difference in mean values of the discretionary accruals between pessimistic Group and optimistic Group。

<Table 6>

Table 6 shows three revision results. We identify the large difference between pessimistic Group and optimistic Group in mean values of the discretionary accruals (DA) on the total sample and other groups. In the case of the other groups, Table 6 shows the negative 2.882, 5.862 and 3.800 days in optimistic Group and positive 2.681, 2.71096 and 1.986 days in pessimistic Groups. The t value of around two and the low p value less than 10 percent in Table 6 tell us that the H2S is rejected at the one percent significance level. In this case it is assumed that discretionary accruals may make use of possible income changes.

However, in Toyota group, two revisions, a and b, show adverse relation. The comparison of the Toyota group with other groups shows a different sign of discretionary accruals (DA). The optimistic group of Toyota group is not negative in two revisions. Optimistic group does not lead to negative discretionary accruals in the Toyota group. The low t value of three revisions and the high p value in Table 6 tell us that the H2S is not rejected at the ten percent significance level. In this case the discretionary accruals might be used for possible income smoothing. We find a clear difference between the Toyota group and other groups.

8. Conclusion

Does TPS prevent earnings management?　We examine earnings management　behavior on inventory and the revision behavior of management forecast in the Japanese automobile industry. we clearly identify income smoothing behavior under the potential handling of discretionary day's inventory (= inventory÷sales×365) and find pessimistic(optimistic) revision behavior of management forecasts with large increase(decrease) of discretionary accruals. Although we found such two behaviors in most of the groups studied, we could not identify above two behaviors in the Toyota group.　The TPS may prevent earnings management based on inventory and accruals only in Toyota Group under the order-driven Toyota Production System.

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Figure 1 Distribution of annual net income scaled by beginning of total assets

(consolidated)   (parent company)

a. fiscal years 1995-1999   b. fiscal years 1995-1999

c. fiscal years 2000-2006   d. fiscal years 2000-2006

Data : NIKKEI NEEDS, firms without financial sectors

scaled net income$_t$ = net income$_t$÷total assets$_{t-1}$

The extreme data of less than -0.1and more than 0.1 are not shown.

From Yoshida and Kunimura (2008).

Table 1 Day's Inventoryy in Japanese Automobile Industry

a Total Sample   Consolidated   (days)

	Inventory	Finished Goods	Work in Process	Raw Materials
Firm-year	456	217	208	209
Mean	26.569	11.136	6.553	7.968
Median	25.426	8.402	5.965	6.478
Mini	3.101	0.011	0.507	1.192
Max	81.172	47.430	22.989	27.150

b Toyota Group   Consolidated   (days)

	Inventory	Finished Goods	Work in Process	Raw Materials
Firm-year	208	114	113	114
Mean	25.668	10.814	7.047	6.007
Median	23.561	9.984	6.147	5.193
Mini	3.782	0.149	0.507	1.192
Max	81.172	32.038	22.989	16.256

c Other Group   Consolidated   (days)

	Inventory	Finished Goods	Work in Process	Raw Materials
Firm-year	248	103	95	95
Mean	27.325	11.493	5.965	10.321
Median	27.013	7.081	5.732	9.517
Mini	3.101	0.011	0.980	1.388
Max	65.548	47.430	14.653	27.150

d Difference test in Means between Toyota G. and Other G.. Consolidated

	Inventory	Finished Goods	Work in Process	Raw Materials
t value	−1.313	−0.500	1.885	−5.768
p value	0.095	0.309	0.030	0.000

e Total Sample   Parent company   (days)

	Inventory	Finished Goods	Work in Process	Raw Materials
Firm-year	399	399	399	399
Mean	16.247	5.193	7.241	3.812
Median	13.640	4.337	5.109	2.929
Mini	2.369	0.000	0.166	0.094
Max	77.905	21.717	77.777	17.553

Consolidated fiscal year from 2000 to 2007, parent from 2000 to 2006

Nikkei needs data

day's inventory = Inventory / sale * 365

Table 2 Discretionary day's inventory change (DΔINV/S)

7201 Nissan Motor Corp.

year	Sales(S)	Ne Income	CFO		INV	INV/S	TA	DA/S	Δ(INV/S)	DΔ(INV/S)	Type	
	a	b	c	Δ	d	d/a*365	b-c	ΔTA/a* 365	(dt/at-dt-1/at-1)*365	ΔΔ(INV/S)	DA	ΔINV
	B Yen	B Yen	B Yen		B Yen	day	B Yen	day	day	day		
2008.3	10824	482	1342	+	1005	33.89	−860	9.37	−1.14	−3.01		A
2007.3	10,469	461	1,043	+	1,005	35.03	−582	−11.93	1.87	−1.15	a	A
2006.3	9,428	518	758	+	856	33.16	−240	−14.81	3.02	−0.44	a	A
2005.3	8,576	512	369	−	708	30.13	143	18.58	3.47	5.86	b	B
2004.3	7,429	504	797	+	543	26.67	−294	−10.49	−2.39	0.01	a	
2003.3	6,829	495	575	+	544	29.06	−80	−12.31	−2.40	−0.35	a	A
2002.3	6,196	372	222	+	534	31.46	150	−6.35	−2.05	−2.14	a	A
2001.3	6,090	331	73	−	559	33.51	258	73.98	0.09	0.35	b	B
2000.3	5,977	−684	292		547	33.42	−976	−57.94	−0.26			

$\Delta CFO = CFO_t — CFO_{t-1}$

$TA = Net\ Income — CFO = b-c$

$\Delta TA = DA = (b-c)_t — (b-c)_{t-1}$

$DA/S = ((b-c)_t — (b-c)_{t-1})/a \times 365$

$INV/S = d/a \times 365$

$\Delta(INV/S) = (d_t/a_t - d_{t-1}/a_{t-1}) \times 365$

$D\Delta(INV/S) = \Delta(INV/S)_t - \Delta(INV/S)_{t-1}$

S: Sales,　INV: Inventory,　TA: Total Accruals,　DA: Discretionary Accruals,
CFO: Cash flow from Operation, ⊿ : Difference(t – t-1), t: time
From the NIKKEI NEEDS database.

Table 3　　Discretionary accruals (DA)
of positive ⊿CFO and negative ⊿CFO
between the Toyota group and other groups

	Positive ⊿CFO	Negative ⊿CFO	t value	p value
	day	day		
Total Sample	−3.850	8.934	−10.931	0.000
Toyota Group	−3.829	9.757	−11.005	0.000
Other Group	−3.869	8.314	−6.799	0.000

Assumption
A firm-year with earnings increase (decrease) before potential earnings
management is assumed to have positive (negative) ⊿CFO.
Hypothesis:
H1. Positive (negative) ⊿CFO leads to negative (positive) discretionary
accruals.
Modified DJ model:
　　　$DA/S=(TA_t/S_t – TA_{t-1}/S_{t-1})$……..(3)
DA: discretionary accruals, TA: total accruals、 S: sales、 ⊿ : difference
Sample: from fiscal year March 2000 to March 2008 in the Japanese
automobile industry with 57 firms、 456 firm-years (Toyota G208, Other G248)

Table 4　Discretionary day's inventory change (D⊿INV/S)

of positive ⊿CFO and negative ⊿CFO

between the Toyota group and other groups

⊿⊿INV/S

	Positive ⊿CFO	Negative ⊿CFO	t value	p value
	day	day		
Inventory				
Total Sample	−0.242	1.160	−3.765	0.000
Toyota Group	0.046	0.528	−1.055	0.146
Other Group	−0.500	1.635	−3.829	0.000
Finished goods				
Total Sample	−0.308	0.579	−2.327	0.010
Toyota Group	0.012	−0.189	0.454	0.325
Other Group	−0.674	1.219	−3.123	0.001
Work in process				
Total Sample	−0.225	0.265	−2.394	0.009
Toyota Group	−0.281	−0.004	−1.365	0.088
Other Group	−0.155	0.503	−1.920	0.029
Raw material				
Total Sample	0.136	0.592	−2.012	0.023
Toyota Group	0.104	0.136	−0.146	0.442
Other Group	0.178	0.995	−2.285	0.012

Assumption:
A firm-year with earnings increase (decrease) before potential earnings
management is assumed to have positive (negative) ⊿CFO.
Hypothesis:
H2S.　Positive (negative) ⊿CFO leads to negative (positive) D⊿INV/S.
Modified DJ-S model:

$$D⊿INV/S = (⊿INV_t/S_t − ⊿INV_{t-1}/S_{t-1})*365………;.(4)$$

INV: inventory, S: sales、 ⊿ : difference
Sample: from fiscal year March 2000 to March 2008 in the Japanese automobile
industry with 57、 456 firm-years(Toyota G 208, Other G 248)

Table 5 Discretionary day's inventory change (D⊿INV/C)

of positive ⊿CFO and negative ⊿CFO

between the Toyota group and other groups

⊿⊿INV/C

	Positive ⊿CFO	Negative ⊿CFO	t value	p value
	day	day		
Inventory				
Total Sample	−0.124	1.211	−3.068	0.001
Toyota Group	0.152	0.476	−0.561	0.288
Other Group	−0.370	1.763	−3.257	0.001
Finished goods				
Total Sample	−0.327	0.650	−2.134	0.017
Toyota Group	0.040	−0.296	0.614	0.270
Other Group	−0.747	1.438	−3.042	0.002
Work in process				
Total Sample	−0.217	0.244	−1.957	0.026
Toyota Group	−0.295	−0.066	−0.939	0.175
Other Group	−0.119	0.518	−1.660	0.050
Raw material				
Total Sample	0.213	0.655	−1.643	0.052
Toyota Group	0.138	0.116	0.087	0.465
Other Group	0.308	1.130	−1.822	0.037

Assumption:

A firm-year with earnings increase (decrease) before potential earnings

management is assumed to have positive (negative) ⊿CFO.

Hypothesis

H2C. Positive (negative) ⊿CFO leads to negative (positive) D⊿INV/C.

Modified DJ-C model:

$$D⊿INV/C=(⊿INV_t/C_t − ⊿INV_{t-1}/C_{t-1})*365………;.(5)$$

INV: inventory, C: cost of goods sold、⊿ : difference

Sample: from fiscal year March 2000 to March 2007 in the Japanese automobile

industry with 57 firms、456 firm-years (Toyota G 208, Other G 248)

Table 6   Discretionary accruals (DA) of optimistic management
            forecasts and pessimistic management forecasts
            between the Toyota group and other groups

a. MF at May - FS at Next May

	DA	DA	t value	p value
	MFMay＜FS	MFMay＞FS		
	pessimistic	optimistic		
	day	day		
Total Sample	1.716	-0.610	1.629	0.052
Toyota Group	0.498	1.881	-0.891	0.187
Other Group	2.681	-2.882	2.424	0.008

b. MF at May - MF at November

	DA	DA	t value	p value
	MFMay＜ MFNov	MFMay＞ MFNov		
	pessimistic	optimistic		
	day	day		
Total Sample	1.796	-1.990	2.320	0.011
Toyota Group	0.608	1.537	-0.556	0.290
Other Group	2.710	-5.863	3.104	0.001

c. MF at May - MF at March

	DA	DA	t value	p value
	MFMay＜ MFMar	MFMay＞ MFMar		
	pessimistic	optimistic		
	day	day		
Total Sample	1.497	-2.680	2.127	0.018
Toyota Group	1.058	-1.246	1.139	0.128
Other Group	1.987	-3.800	1.855	0.035

MF: Management Forcasts
FS:Financial Statements

TAt =NIt−CFOt
DAt = TAt/St−TAt−1/St−1

partition variable net income

Fiscal year end: March 31

Number of firm-year sample… a. 285 b. 322 c. 180

THE DEVELOPMENT AND EVALUATION OF INTELLECTUAL CAPITAL INDEX IN MALAYSIA

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Abstract

Intellectual Capital (IC), a value creator of today's economy, is of critical importance to a company's long-term sustainability, profitability and growth. Though the value of companies has been shifting from tangible to the intangibles, many studies indicate that IC (or IC components) is not fully measured by the traditional financial statements due to its intangible nature (see for example Guthrie & Petty, 2000; Williams, 2001). As IC enables higher corporate value which results in better financial performance, it is essential to measure or value IC via a more creative tool such as IC Index (Bontis, 2004) or Rating (Edvinsson, 2002). An IC Index/Rating provides management with a basis for optimising competitiveness of its companies by focussing on the potential value of IC. It also functions as a foundation to measure IC and its components maximising profits for companies. It should also help various groups in comparing the potential IC values of companies.

The research will study the effect of intellectual capital on companies' performance in the Malaysian (business) environment. Components of IC are introduced and linked to the companies' competitiveness and/or performance. The intent is to provide an exploratory foundation for the development of systems and processes useful for meaningful management of intellectual assets. Finally, the study shall make recommendation based on empirical findings for external reporting of intellectual capital.

Keywords: Intellectual Capital, Malaysia

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CHAPTER 1: INTRODUCTION

1.1   Introduction

Intellectual Capital (IC), a value creator of today's economy, is of critical importance to a company's long-term sustainability, profitability and growth. Though the value of companies has been shifting from tangible to the intangibles, many studies indicate that IC (or IC components) is not fully measured by the traditional financial statements due to its intangible nature (see for example Guthrie & Petty, 2000; Williams, 2001). As IC enables higher corporate value which results in better financial performance, it is essential to measure or value IC via a more creative tool such as IC Index (Bontis, 2004) or Rating (Edvinsson, 2002). An IC Index/Rating provides management with a basis for optimising competitiveness of its companies by focussing on the potential value of IC. It also functions as a foundation for modern business control system supplying clear and measureable goals to measure IC and its components maximising profits for companies. It should also help various groups in comparing the potential IC values of companies. Thus, the old axiom that "something gets measured, gets managed" holds valid.

Review on intellectual capital literature which has focus on performance measurement, shows that most of the studies concerning performance measurement have examined mature listed companies and had market value as one key indicator (see e.g. Bontis et al. 2000; Hurwitz et al. 2002; Chen et al., 2005). Many of the studies support the hypothesis that intellectual capital has a positive impact on firm's financial performance and market value. There are of course contradictory results as well suggesting that more investment in intellectual capital is not always better (Huang and Liu, 2005) and that not all elements of intellectual capital have positive impact on firm's financial performance (Wang and Chang, 2005; Firer and Williams, 2003). Contradictory results may stem from the facts that the analyzed firms are from different regions, they are not in the same field of business or firms may undergo divergent growth stage.

The critical competitive importance of intellectual capital in today's economy inidicates a need for high performance systems to manage them. Recent advances associated with total quality management, reengineering, learning organizations, and other initiatives have accomplished much. However, review from literature indicates that the management of intellectual capital is, at best,

ad hoc in most organizations. One reason is that traditional accounting systems are not well equipped to measure or monitor most elements of intellectual capital. Anoher reason is that the management of intellectual capital is considered by many as synonymous with workforce management. However, intellectual capital encompasses more than people and, therefore, requires a more comprehensive approach.

1.2   The Proposed Study

The research will study the effect of intellectual capital on companies' performance in the Malaysian (business) environment. Components and elements of intellectual capital are introduced in detail and linked to the issues raised in the analysis of competitiveness and/or performance. In addition, methods of measuring intellectual capital at both the components and organization levels shall be presented/developed. The intent is to provide an exploratory foundation for the development of systems and processes useful for meaningful management of intellectual assets. Finally, the study shall make recommendation based on empirical findings for external reporting of intellectual capital. The core of the thesis is to develop an intellectual index or rating for Malaysian companies.

1.3   Significance of the Study

The results of this research should supplement interest groups in investing decisions and company valuations. The result which links IC value to performance and market value of companies will be used for prediction. The findings of this research will aid the profession in a more systematic external reporting of IC like disclosing IC Index in the annual reports in the future.

1.4   Summary

This research hopes to develop an IC Index/Rating for Malaysian companies. The result of this research should help interest groups in investing decisions and company valuations as well as make comparison among them. The result will also link IC value to performance and market value of companies.

This research also intents to make recommendations to the Accounting profession for external reporting of IC in the annual reports of Malaysian companies indicating their IC index or rating.

On the next section, a short review on relevant literature is given. After this, the research framework is considered.

CHAPTER II: LITERATURE REVIEW

2.1   Introduction

Recent changes in the global economy which charaterized by complex and dynamic competitive environment have led to the importance of knowledge-based resources as the true source in sustaining competitive advantage of the firm. With this growing need to support knowledge-based economy, the way business is carried out has to be reshaped as firm's core asset are now the intellectual capitals (IC) that generally made up of the combined knowledge of human, structural, and relational resources (Abdul Latif & Fauziah, 2007).

Following this new development, Malaysia has also embarked on a mision to develop a knowledge-based society by launching a Knowlwdge-Based Economy Mater Plan in 2002 which outlines various strategies to accelerate the transformation of Malaysia to a knowledge-based economy (Economic Planning Unit, 2002). It aims to achieve a sustainable economic growth where Malaysia can no longer rely on investment in capital or physical assets but rather growth must be driven by productivity and innovation supported by effective managment of both tangible and intangible resources particularly the IC.

It is expected that the number of knowledge workers and new knowledge-based opportunities will increase in the near future of Malaysia and this new phenomenon will force firms to further develop and manage their IC. However, other than the concern on IC management, what is equally important is that the accounting discipline reflected in financial reporting as currently conceived can no longer provide what is being demanded by information users and investors.

The study/research is trying to propose here is the need for a much more broadly conceived concept of firm value reporting in Malaysia based on the dual requirements of financial and operational reporting, and within this context, IC reporting. In Malaysia, as presently, not much is known as to the extent to which firms in Malaysia have adopted IC management and subsequently IC reporting. Thus, it is the purpose of this research to analyse the initiatives developed in Malaysia in relation to IC reporting practices and then propose a policy framework specifically in the development of Malaysia own IC reporting index for a consistent and comparable IC reporting among Malaysian firms that would allow for more meaningful decision making. The practical implication would be for enforcement bodies like Securities Exchange (SE), Bank Negara Malaysia (Central Bank of Malaysia), and Companies Commission of Malaysia to use this propose IC reporting index as a guideline in setting legal requirement for mandatory operational and IC reporting. This research will also become a reference framework in assessing information quality that is, inter alia, based on consistency, comparability, and comprehensiveness of reported information.

2.2   Intellectual Capital - Definition

A review on literature indicates that there is a lack of a homogenous view on how to define, classify and value intangible assets or intellectual capital. It can

be argued that definitions and classifications of intangible assets are made with respect to the specific purpose of each study (see e.g. Kaplan and Norton 2004; Bontis and Fitz-enz 2002; Hurwitz, Lines, Montgomery and Schmidt 2002). The literature concerning intangible assets is widely encountered in the field of (business) research. One remarkable research project concerning intangible assets was the MERITUM-project – a project funded by European Union. The project's final report "Guidelines for managing and reporting on intangibles" (2001) presents intellectual capital as a combination of three groups where intangible assets can be further derived from.

In MERITUM-project's guideline *intellectual capital* refers to the combination of the human, structural and relational capital. A concept of *intangible asset (intangible)* refers to a factor (asset) arising either from human, structural or relational capital, which is used to create value. Human capital focuses on skills, experience, competence and innovation ability of personnel; structural capital consists of organizational processes and systems, software and databases, business processes and brands; relational capital includes customer reference lists, information on customer revenue potential and customer closeness. Though these elements are presented separately, they are bound with each other (Guidelines for managing… 2001; Rodov and Leliaert 2002).

From management's perspective, intangibles are directly linked to internal strategic decision-making, whereas the importance of intangibles for investors is emphasized in investment decision-making process. Arvidsson (2003) studied extensively strategic management and measurement/accounting literature and found intangible assets classifications being developed either for the internal or external usage. The strategic management literature relates intangibles to the process of creating sustainable competitive advantage and corporate value, whereas measurement/accounting literature focuses on how intangibles can be structured and measured in the financial accounting and reporting context. This definition is of course not an exclusive one, leaving room for other definitions too. Figure 1 represents the classification structure for intangibles suggested by Arvidsson (2003).

Figure 1. Classifications for Intangible Assets

Listing-approach, comprehensive-approach and BSC-approach represent the classifications developed for internal usage – their origin lie in the strategic management literature. Management team and other employees involved in the strategic decision-making processes use listing-approach to propose sub-groups and then to sort intangibles into these sub-groups. In comprehensive approach intangibles importance in the value-creation process is emphasized and intangibles classifications are put forward as schemes, models or frameworks developed and designed to assist in the internal strategic decision-making process. Neither listing-approach nor comprehensive-approach has a

measurability dimension that BSC-approach has. BSCapproach does not, however, try to value the intangible assets in currency units. It is distinguished from other approaches by the fact that it does not have an explicit focus on intangibles. Nevertheless, its customer, internal-business processes, and learning and growth perspectives have had substantial influence on the classifications of intangibles (Arvidsson 2003).

Three approaches described above refer to the strategic management literature and represent the classifications of intangible assets developed for the internal usage. In a similar manner, a threefold division-approach represents a classification developed for the external usage. Measurement/accounting literature has provided a base for this classification structure, where the dimensions of human capital, structural capital, and relational capital are emphasized. This categorization helps firms to communicate the presence and the importance of their intangible assets. Investors on the capital markets can utilize this structure to evaluate the firm's intangible assets and to better capture a value of the firm. Though the threefold division-approach has external usage status, its exploitation for internal use cannot be excluded (Arvidsson 2003).

Intellectual capital and intangible assets are often used as synonyms to describe the non-tangible factors of production that the firms make use of. However, when accounting is considered, a definition for both terms can be drawn. The International Accounting Standards Board defines an intangible asset as an identifiable non-monetary asset without physical substance held for use in the production or supply of goods or services, for rental to others, or for administrative purposes. In addition, FRIS 38 prescribes that intangible asset is a resource controlled by an enterprise as a result of past events and from which future economic benefits are expected to flow to the enterprise. These definitions draw a distinction between intellectual capital and intangible assets. The former includes all elements of non-tangible assets that the firm can utilize in its operations; in the latter elements that the firm does not control (own) are excluded, i.e. some elements of human capital.

2.3   Theoretical Background to the Study
The investigation of IC reporting could probably best drawn from social and political theory most particularly the stakeholder theory and legitimacy theory. Stakeholder theory talks about how the organization owes accountability to all its stakeholders to provide information on how the organization's activities affect them (Deegan, 2000). These should encourage voluntarily disclosures of IC as indicators of which stakeholders matter most to the firms and thus, those which firms may be seeking to influence. Legitimacy theory argues that firms can only continue to exist if the society in which they are based perceived the firms to be operating to a value system which is commensurate with the society's own value system. Thus, Guthries et al (2004) argue that firms with high levels of IC will be more inclined to disclose their IC as they cannot

legitimize their status through the traditional symbols of corporate success, the tangible assets. Instead, they need to communicate how the firm uses its IC to generate value.

2.4   Measuring and Reporting Intellectual Capital Practices

Efforts to reconstruct firms annual reporting to include IC indicators were spearheaded in the early 1990s by a small number of firms which took a particular interest in thsi issue (Guthrie and Petty, 2000). Annual Report is an ideal location for applying the IC model because they provide a good proxy with which to measure the comparative positions and trends of IC between firms, industries, and countries (Abeysekera, 2001).

This has been one reason why much of the published research on measuring and reporting of IC practices has used annual reports as a source documents to ascertain the status of the IC of firms, both within countries and between countries. Among IC reporting researches published in the last few years are located in Australia (Gutrie & Petty, 2000), Sri Langka (Abeysekera & Gutrie, 2000), and United Kingdom (Williams, 2001). Most of these researches used framework developed by Sveiby (1997) i.e. the Intangibles Assets Monitor model in undertaking their research. One of the researches conducted by Gutrie and Petty (2000) in Australia revealed that key components of IC are poorly understood, inadequately identified, inefficiently managed and inconsistently reported. In fact, even the Australian best practice firm is in need of a comprehension management framework, especially for reporting IC information. There were also researches conducted in the area of human resource (HR) reporting, a subset of IC, in which has seen an increasing importance in Nordic countries in the 1990s, especially Sweeden (see Sveiby, 1989) where companies took a lead in this respect by publishing statements about their HRs in their annual reports as an addition to the conventional financial statements.

In Malaysia, as presently, not much is known as to the extent to which firms in Malaysia have adopted IC reporting but there are high possibility Malaysian firms that produce the Corporate Social Responsibility (CSR) reports to provide information on HR (See Kamaluddin and Abdul Rahman, 2007). However, that does not mean there is no research being conducted in Malaysia on IC as most of the exixting research has put more focus on the IC management instead of IC reporting (see Abdul Latif & Fauziah, 2007). Recent study on IC is focus on the impact of the IC disclosures in the prospectus of the firms offering IPOs. Therefore, what this research trying to propose here is the need to create a better management of IC and better quality of financial reporting among the Malaysian companies by analyzing the initiatives developed in Malaysia in relation to IC reporting practices and propose a policy framework (index) specifically in the development of Malaysia own IC reporting Index for a consistent and comparable IC reporting among Malaysian firms that would allow for a more meaningful decision making.

2.5 Development of Intellectual Capital Reporting

Measuring and assessing IC by firms have become more important with the adoption of International Financial Reporting Standards (IFRSs) by many countries including Malaysia. The prudent approach taken by IFRS especially in recognizing assets (such as applying impairment test on assets and writing off intangibles which cannot be objectively verified in reference to an active market) has altered the reporting value of firms rather than the fair value of the firm (Abeysekera, 2007). This approach has also increased the "unexplained" gap between the fair price and the reported value (net book value) of the firm. Since investors are not fully aware of the gap between fair value and the reported value, this information gap creates two broad classes on investors: those that have access to information relating to the "unexplained gap" (perhaps shared at private meeting) and those that don't (Mary et al, 2003). As investors have access to information that explicates the "unexplained gap" can make better economic decisions as compared to those without the information, the need for better reporting has increased which lead to the development of external reporting that include IC Reporting. This new development could possibly create a competitive advantage to those firms that are able to produce such report.

Firms have always used tools to assess their assets and with the increasing demand for IC reporting, a demand for a new managing and measuring tools for a special type of intangible resources, such as organizational knowledge, has existed. Among tools being introduced for managing firm's IC is the Skandia Navigator, the Intellect Model, and the Intangible Assets Monitor.

Skandia Navigator model proposed by Edvinson and Malone (1997) exposes five scopes: financial, client, human, processes, and renewal and development as elements of the IC system, proposing for every one scope, a set of indicators. The model uses indicators of absolute measurement and efficiency indexes of IC. The main contribution of this model is its integrity, looking at the financial and non-financial perspectives of the organization that allows the estimation of market value of the firms (Bontis, 2001). The Intellect Model (1998) developed in Spain in the workgroup of European Institute proposed three areas of IC: human, structural, and relational. Each area tries to give a preliminary order in elements which are then concreted in measurement indicators. The Intangible Assets Monitor (Sveiby, 1997) commonly described as consisting of three capital categories: internal, external, and employee competence (human capital). In an IC research conducted by Abeysekera (2007) on developed and developing countries, this IC model has been further divided into sub-categories. For instance, human capital was clustered into seven sub-categories i.e. training and development, entrepreneur skills, equity issues, employee safety, employee relations, employee welfare, and employee-related measurements. The training and development sub-category normally comprises know-how, vocational qualifications, career development and training programs while the equity issues can be traced down to issues relating to race, gender, religion, and disability. The employee relation covers union activity, employees being

thanked, employees being featured and employee involvement in the community whereas the employee welfare sub-category consists of employee compensation plan, employee benefits, and employee share and option ownership plan. Lastly, the employee-related measurements sub-category comprises value-added by employees and executives, employee numbers, professional experience, eductaion levels, expert seniority, and age of employees (Subbarao and Zeghal, 1997).

The next section shall illustrate the research methodologies that will be carried out throughout the study.

CHAPTER III: RESEARCH DESIGN AND METHODOLOGY

3.1 The purpose of the study, research questions and hypothesis
The main objective of this project/research is to develop an IC Index/Rating for Malaysian companies. With the development of Malaysia into a 'knowledge-based economy', companies have begun to recognise the importance of managing IC and it is appropriate to develop an IC Index for these companies. Other sub-objectives are to derive IC value using such Index and relate to performance and market value of these companies. Spesifically, the study embarks on the following objectives:

1. To identify the components and elements of IC of companies;

2. To develop a structured measurement tool for management of IC;

3. To assess the IC value of companies;

4. To relate IC value with performance, market value, etc.

5. To make recommendation based on empirical findings for external reporting of IC.

3.2 Research Hypotheses
The research aims to test the following hyphotheses:

1. The higher the value of IC, the higher the company's performance (e.g. profitability, ROA)

2. The higher the value of IC, the higher the company's market to book ratio (MTBR) or market value

3. There is a significant difference between the value of IC among different types of companies in Malaysia.

Further hypothesis shall be developed later.

3.3 Research Methods
The research will use a mixed method of investigation:

1. A list of IC elements/components will be developed from literature;

2. An empirical research via questionnaire on managers (companies listed on the main board of Bursa Malaysia) regarding IC elements/components and their measures used in practice;

3. A check list and score board will be developed and employed to measure companies' IC;

4. Some financial data such as MTBR, profit, etc will be obtained from DataStream.

5. Content analysis of companies' annual reports will also be carried out to gauge/analyse the level of IC repoting;

The research will also be conducted via interviews and postal survey with the aid of questionnaires.

3.4 Sampling Procedure and Data Collection

This research will use simple random sampling as the research is attempting to value IC of Malaysian public listed companies (main board). Various methods of investigation such as self-administered and/or postal survey and interviews will be employed. Interviews will be conducted on selected companies after preliminary survey. Other financial data such as market to book ratio (MTBR), profit, etc will be obtained from DataStream.

Strategic management and measurement/accounting literature both provide huge amounts of intellectual capital related information, which will be used to create an instrument (IC-index) for the measurement purpose. Studies among these areas and especially in the area of capital market research contain disclosure indexes, where items of intellectual capital exist. Although these indexes contain most often other elements as intellectual capital as well, they can be used to help the structural formation of the planned index. At this point of process it seems that there will be three main categories in this index – human, structural and relational capital – which all contain items of intellectual capital. A pilot study will verify that the questionnaire is properly designed and the items are understood in a proper manner. The pilot study also allows to add items of intellectual capital to the index that the respondents feel absent. Managers of financial (and personnel) administration should probably be stressed, when executing the survey. A 1-to-5 or 1-to-7 Disagree-Agree type scale (Likert scale) will be used to score firms' intellectual capital.

3.5 Data Analysis

Besides descriptive statistics, quantitative analysis such as factor analysis and regression analysis will be conducted. Regression model for example can be used to test the importance of intellectual capital for companies' financial performance. Factors such as size, industry, ownership, etc can be used to split the data in more detail. Furthermore, each element of the IC Index can be tested separately to find out their importance for companies' financial performance. In addition, qualitative analysis will be conducted on the findings of interviews.

3.6 Potential Results of the Study

First of all, this study aims to construe a deeper understanding of the role of intellectual capital in firm's business processes and financial performance. Some models of economics are used to describe the core functions and operational environment of firms, whereas models explaining firms'

competitiveness are used to analyze the role and importance of organizational capabilities and resources in business processes. Elements and separate items of intellectual capital will be linked to the issues that have emerged from the competitiveness analysis. This is the conceptual contribution of the study. Secondly, the results of the survey could hint what kind of intellectual capital elements are vital for the companies that are engaged in business activities. As the survey covers companies in different size and industry, some information about the elements that trigger the performance may unfold as well. In addition, the survey is of course to find out, whether the intellectual capital affects firms' financial performance or not. The main objective of the study is to come up with the IC Index for Malaysian companies. This may interest firms, as intangibles are difficult to measure and control, and by that way lead to further research subjects. The Index may provide some consistency for the measurement and reporting of intellectual capital for companies.

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List of Figure

Figure 1. Classifications for Intangible Assets

Figure 1. Classifications for Intangible Assets

THE EFFECT OF FINANCIAL CRISIS AT KOREAN STOCK MARKET

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Abstract

In this study's analysis pre and post the Financial Crisis, the value correlations of the accounting information and the additional explanation ability of the fundamental variables were found to be very high after the Financial Crisis. The significant fundamental variables varied pre and post the crisis. Inventory (SALINV) was found to be significant before the Financial Crisis but was found insignificant after. On the other hand, Accounts Receivable (ΔSALAR) and Personnel Expenses (ΔASLR) were not significant before the Financial Crisis but significant after the crisis, and the signs also changed from negative (-) to positive (+). Meanwhile, Gross Profits (ΔGMSAL) showed negative (-) coefficients before the crisis, but showed positive (+) coefficients after.

Also, the results from conducting regression analysis using POST, which is the dummy variable representing the periods pre and post the Financial Crisis, show that Gross Profits (POST*ΔGMSAL), Sales (POST*ΔSALA), Cost of Sales (POST*ΔCGSA), Accounts Receivable (POST*ΔSALAR) and Personnel Expenses (POST*ΔASLR) showed positive (+) signs, but Equipment Investment (POST*ΔCAPEX) and Assets (POST*ΔASA) showed negative (-) signs.

1. Introduction

The Korean economy has been undergoing many changes since the 1997 Financial Crisis. Such radical changes in the capital market include expansion in foreign stock investments in stocks, full-scale advance of foreign financial institutions into the Korean market, selling off domestic enterprises overseas, and the expansion of foreign ownership rate in domestic enterprises. Owing to such rapid changes after the Financial Crisis, investment methods in the Korean stock market have also changed. As is the case with other countries, investment analysts of securities companies in Korea evaluate the intrinsic value of the enterprises through fundamental analysis using financial statements and the current investment opinions on applicable enterprises and industries. Generally after the crisis, investments in stocks are advised based on the opinions of these securities analysts.

Particularly after the crisis, the country's securities companies made full-scale investments in establishing research centers competitively based on favorable business results following the stock market boom in 1998. Backed by the extensive investments in the business analysis sector, investment analysts have been greatly growing both qualitatively and quantitatively. (Analysts utilizing fundamental analysis are considered the best analysts by media organizations.) Based on such growths, research centers of securities

companies have been able to conduct more systematic and logical corporate analyses. Accordingly, the use of corporate analysis reports has become generalized and the influence of investment analysts continues to expand. The investment analysts of securities companies utilized the fundamental analysis in order to find and analyze the stocks that deviate from intrinsic values as being overestimated or underestimated in the efficient market. The investment strategy that utilizes fundamental analysis suggests to buy underestimated stocks and to sell overestimated stocks.

Meanwhile, focusing on profit information, researches have been made on the effect of information that began to support the utility of financial statements information in the study of accounting. Such research works were based on the assumption that the sum of the present value of future cash flows is the corporate value and that the profit information can be used as the replacing value of cash flows. In the actual capital market, however, the ability to explain the fluctuations of stock prices is found to be minimal. This is primarily due to the fact that profit information is only one part of a company's economic value as contained in the financial statements but the stock prices reflect all information factors contained in the statements. In other words, profit data on the financial statements are important information with regard to the evaluation of corporate values but are only a part of various accounting information. Accordingly, in order to evaluate the utility of financial statements, all the pieces of information reflected in the financial statements should be used, and not only the ones on profit.

From the viewpoint of fundamental analysis, this study observed that one can predict future profits by using the collection of information besides the information on stock prices alone on the assumption that stock prices do not sufficiently represent all the necessary information. This thesis therefore attempts to verify how much the Financial Crisis has influenced the effects of financial statements information in the country's capital market by utilizing the variables of fundamental analyses that have been generalized through the Financial Crisis.

This thesis consists of the following. Chapter 1 explains research objectives and purposes; Chapter 2 explains the conceptual framework of performing the research and describes the research designs; Chapter 3 proves the analysis and presents the results of analysis; and Chapter 4 discusses the results of the research.

II. Research Design

1. Setting Up Hypotheses

Starting from the Financial Crisis that greatly changed the Korean economy, this research will verify whether there are any differences before and after the financial crisis in the use of the financial statements information that utilizes fundamental analysis variables. The reasons for verifying this are twofold. First, due to the Financial Crisis, the accounting transparency of domestic companies was emphasized, expectations for the local companies' accounting

information were raised and the responsibility for inappropriate accounting was reinforced. Second, the domestic financial market environment has rapidly changed due to full-scale foreign investments. And, as investment analysts of securities companies have been engaged in full-fledged activities, fundamental analyses utilizing the financial statements have been very active. Actually, due to substantial business analysis investments since 1999, the business analysis sector of the domestic securities companies has been experiencing rapid quantitative expansion and qualitative growth. Also, the competitions among the investment analysts of securities companies have intensified due to several special events sponsored by news media such as the selection of the best analyst and other prize awards, which have caused general investors to recognize fundamental analysis. Based on this, additional and more diverse fundamental analysis data have been produced and transmitted through diverse channels to investors. So, Hypothesis 1 was set up since it was expected that there would be differences in the use of financial statements that utilize fundamental analysis variables before and after the Financial Crisis.

Hypothesis 1: There are no differences in the use of financial statements that utilizes fundamental analysis variables before and after the Financial Crisis.

Before the crisis, the local companies focused mainly on sales growth rather than on profitability in business management. Such expansion-oriented management led to over borrowing, which was one of the causes of the Financial Crisis. During the crisis however, the local enterprises lowered their debt ratio and focused on profit-oriented management rather than on sales growth. Investors also evaluated the companies and decided to make investments based on profitability rather than on sales or on the asset size of the companies concerned. Due to this, along with the utility of fundamental analysis variables, the variables representing profitability, Gross Profits (ΔGMSAL), Cost of Sales (ΔCGSA), and Personnel Expenses (ΔASLR) are expected to be more significant during after the crisis. So, in addition to the above hypothesis, Hypothesis 2 was set up since it was expected that there would be differences in value correlations of Gross Profits (ΔGMSAL), Cost of Sales (ΔCGSA) and Personnel Expenses (ΔASLR).

Hypothesis 2: Of the fundamental analysis variables, there are no differences in the value correlations of the fundamental analysis variables representing profitability, Gross Profits (ΔGMSAL), Cost of Sales (ΔCGSA) and Personnel Expenses (ΔASLR) before and after the crisis.

On the other hand, during crisis, the local companies lowered their debt ratios, sold off non-business properties and pushed forward restructuring, which are factors that favored the stock market. Variables representing an enterprise's external growth such as equipment investment (ΔCAPEXA) or assets (ΔASA) are expected to have negative (-) impact on the earning rates after the Financial Crisis. In addition therefore, Hypothesis 3 was set up since it was expected that there would be differences in the value correlations of

2680

Equipment Investment (ΔCAPEXA) or Assets (ΔASA) representing the external growth of a company before and after the Financial Crisis.

Hypothesis 3: Of the fundamental analysis variables, there are no differences in the value correlations of the fundamental analysis variables representing an enterprise's external growth, Equipment Investment (ΔCAPEXA) or Assets (ΔASA).

2. Selection of Variables

This research attempts to verify the utility of the financial statements by using a total of 16 fundamental analysis variables, which are made up of eight fundamental analysis variables that can be applied to the Korean market, 12 fundamental analysis variables are based on the expertise of American securities analysts presented in the dissertation of Lev and Thiagarajan (1993), and eight fundamental analysis variables that do not overlap with the other eight fundamental analysis variables of American securities analysts.

In general, the distinction between good signal and bad signal is clear in the accounting profit information but unclear in the non-profit accounting information. Investment analysts of securities companies generally interpret accounting information that is based on fundamental analysis. For example, the imbalanced increase in inventory is interpreted as bad signal. Of course, such imbalance can be due to the managers' expected increase in sales. Although such interpretation is not always right, this research makes the necessary judgment regarding the signal of non-profit accounting information in accordance with the criteria that the securities analysts use to distinguish between good signal and bad signal when conducting fundamental analysis. In general, a sharp increase in inventory more than net sales means the company is experiencing sales difficulties. Moreover, such imbalanced increase in inventory will force management to attempt to maintain the level of inventory, which will reduce profit. Besides, an increase in inventory will lower future profit due not only to the opportunity cost of inventory purchase, inventory storage costs, inventory diminution and loss but also to the reserve of overhead costs allotted to inventory. Accordingly, in general, the increase in inventory is regarded as a bad signal and the decrease in inventory is a good signal.

In this research, the rate of increase in sales less the rate of increase in inventory is denoted as ΔSALINV.

Accordingly, as mentioned above, the value of the variable resulting from the increase in inventory is expected to be negative (-) or as a bad signal, and the value of the variable resulting from the decrease in inventory is expected to be positive (+) or as a good signal. It is expected to have the same effect on the fluctuation of stock prices.

The rate of increase in inventory is calculated by dividing the change in the inventory amount at the end of the current year (t) compared with the inventory amount at the end of the immediate previous year by the inventory amount at the end of the immediate previous year. This can be expressed as:

$\Delta SALINV_t = (\text{Inventory}_t - \text{Inventory}_{t-1})/\text{Inventory}_{t-1}$

This equation shall be used to determine the rate of increase in sales and all the other fundamental analysis variables that are discussed below. Table 1 below summarizes the investment analysts of securities companies that are used in this research.

Table 1: Definition of Fundamental Analysis Variables

Fundamental Analysis Variables	Measurement of Variables
1. Inventory	The increase rate of sales – the increase rate of inventory
2. Accounts Receivable	The increase rate of sales – the increase rate of accounts receivable
3. Equipment Investment	The increase rate of equipment investment – the increase rate of equipment investment of the same industry
4. Gross Profits	The increase rate of gross profits – the increase rate of sales
5. Selling and Administrative Expenses	The increase rate of sales – the increase rate of selling/administrative expenses
6. Bad Loan Reserves	The increase rate of bad loan reserves – the increase rate of accounts receivable
7. Effective Corporate Tax Rates	(Before tax net profit per share/stock price of the immediate prior year)
8. Labor and Personnel	The increase rate of sales compared with immediate prior year per employee
9. Sales	The increase rate of sales – the increase rate of sales of the same industry
10. Accounts payable	The increase rate of sales – the increase rate of accounts payable
11. Cash Flow	The increase rate of cash flow compared with the immediate prior year per share
12 Liquidity	The increase rate of current assets – the increase rate of current liabilities
13. Debt	The increase rate of liabilities – the increase rate of current liabilities
14. Cost of Sales	The increase rate of cot of sales of the same industry – the increase rate of cost of sales
15. Personnel Expenses	The increase rate of personnel expenses of the same industry– the increase rate of personnel expenses
16. Assets	The increase rate of assets – the increase rate of assets of the same industry

* Variables 1to 8 are the variables used by Lev and Thiagarajan, and variables, 9 to 16 are used by Korean investment analysts that do not overlap with 1 to 8.

3. The Enterprises Analyzed

Among the enterprises listed on the Korea Stock Exchange from January 1, 1992 to December 31, 2001, the sample enterprises include the companies settling accounts in December and whose stock prices and financial statements data are included in the database of the enterprises information warehouse TS2000 of the Korea Listed Companies Association, excluding the following companies:

(1) Banks, investment finance companies, securities companies and insurance companies. (Financial industries and similar services

industries widely differ from the other industries in business activities, asset structures and accounting policies.)

(2) Stocks that are classified as controlled. (Their trade was sluggish or even discontinued, incurring problems in data continuity.) This research may have certain biases in the sampling as it included only the relatively sound enterprises.

(3) Company stocks that were merged from January 1993 to December 2001 (due to the same reason of the problems of data continuity).

The period applicable begins in 1992 in consideration to the fact that in 1993 the country's capital market opened and investment organizations including securities companies began to adopt the fundamental analysis.

4. Descriptive Statistics

As the summary of descriptive statistics of the variables used in this research, Table 2 shows mean, median, and the percentage value of the parts within 1% and 5% at both ends of the distribution of the variables. The distribution of the value of ΔEARN poses a serious problem in extreme value in that it ranges from the minimum of -38.62 to the maximum of 80.79. So, the extreme value in ΔEARN was treated through "winsorize" at the values of ±1 at both ends of the distribution.

Table 2: Descriptive Statistical Measures of the Sample

2299 Enterprises/Year, 1993-2001

Variables	Mean	Standard Deviation	Minimum	1% Value	Median	99% Value	Maxmum
Rt	0.072	0.704	-0.940	-0.853	-0.031	2.040	14.000
ΔEARN	0.183	0.336	-38.62	-4.280	-0.000	8.713	80.79
ΔSALINV	-0.000	0.373	-2.805	-1.290	-0.026	0.878	1.990
ΔSALAR	-1.703	0.405	-80.20	-46.63	-1.703	70.70	166.35
ΔCAPEXA	-0.626	-10.00	-82.07	-54.76	-10.00	184.251	380.35
ΔGMSAL	0.024	2.237	-87.33	-1.843	0.010	2.308	23.71
ΔSALSA	0.013	0.288	-1.475	-0.642	-0.002	0.902	3.603
ΔBDAR	0.683	3.915	-5.383	-1.277	0.000	13.523	80.55
ΔETR	0.254	3.709	-5.499	-0.249	0.000	2.220	96.53
ΔSALPP	-15.05	26.52	-278.8	-114.95	-10.98	35.70	73.50
ΔSALA	-0.293	19.49	-80.20	-46.743	-1.788	70.426	166.35
ΔSALAP	-0.128	1.308	-25.15	-3.0698	0.000	0.960	19.64
ΔCFPS	-18.33	335.76	-15380	-96.267	-9.841	43.212	393.21
ΔASDB	-.005	0.462	-9.36	-1.544	-0.001	0.715	2.81

ΔDEBT	-0.005	0.387	-9.60	-1.232	-0.002	0.6031	0.98
ΔACGS	1.086	4.32	-2.40	-0.706	-0.004	18.633	19.51
ΔASLR	0.003	0.265	-2.63	-0.728	-0.003	0.621	1.12
ΔASA	0.000	0.229	-2.64	-0.7994	0.003	0.448	1.12

Pearson correlation coefficients among the proof model variables that were used when proof analysis was conducted on the sample of the enterprises/accounting year are shown in Table 3.

Table 3: Correlation Coefficients of Variable of Proof Models

	Rt	ΔEARN	ΔSALINV	ΔSALAR	ΔCAPEXA	ΔGMSAL	ΔSALSA	ΔBDAR	ΔETR
Rt	1	0.19***	0.11***	0.11***	0	0	-0.02	-0.06***	0.06
		0	0	0	-0.447	-0.445	-0.168	-0.005	-0.004
ΔEARN		1	0.09***	0.04	-0.02	0.03	-0.20***	-0.06***	-0.01
			0	-0.023	-0.188	-0.067	0	-0.002	-0.285
ΔSALINV			1	0.10***	-0.07***	-0.04	-0.13***	-0.03	-0.05
				0	-0.001	-0.034	0	-0.076	-0.018
ΔSALAR				1	-0.03	0	-0.09***	-0.03	-0.04
					-0.089	-0.444	0	-0.082	-0.032
ΔCAPEXA					1	-0.01	0	-0.03	0.03
						-0.262	-0.465	-0.128	-0.106
ΔGMSAL						1	0.03	0	0
							-0.061	-0.483	-0.424
ΔSALSA							1	0.20***	0.01
								0	-0.385
ΔBDAR								1	-0.01
									-0.32
ΔETR									1

When the correlations among the independent variables are high, the core model of this research can cause the problem of Multicolinearity at the time of multiple regression analysis. In this research, however, the problem of Multicolinearity is not considered a serious threat in view of the figures of VIF and condition index in the later multiple regression analysis.

5. Research Methodology

In order to verify the hypotheses, this research examines the utility of the information of fundamental analysis variables before and after the Financial Crisis. The basic regression model used to prove the research hypotheses is as follows:

$$R_{t,i} = a_0 + a_1 \Delta EARN_{t,i} + V_{t,i} \quad \text{.. (1)}$$

$R_{t,i}$ = Stock earning rates from April, Year t to March, Year t+1

$\Delta EARN_{t,i}$ = Change in EPS of i enterprises in the Year t divided by the stock prices of Year t-1

In this research, each fundamental signal is defined such that the more positive value it has by logical inference, the more positive effects they have on the excess earning rates. Accordingly, the purpose of this research is to verify whether or not bj, which is coefficient of each Sj, has positive value when the fundamental analysis variables are used as additional independent variables. If bj has positive value it can be interpreted as having positive influence on the future earning rates.

Each of partial F values are examined in order to determine the adaptability of the model. In the regression model, Rt is the buy-and-hold stock prices earning rates for the period t from April to March of the succeeding year, and $\Delta EARNt$ is the change in EPS for the period t divided by the stock prices of the previous year, and a and b are coefficients of the regression model. When fundamental analysis variables are not useful at all, the slope coefficient b should be 0, and when fundamental analysis variables are useful, b should be greater than 0 (b>0). So, partial F value is the value used to verify the regression coefficient for the fundamental signal in its entirety, as well as to prove the hypothesis that the regression coefficients of the fundamental signals are all 0. If partial F value is high, then the hypothesis that the regression coefficients are all 0 can be rejected.

In order to verify whether or not there are differences in the utility of non-profit financial statements information before and after the Financial Crisis which greatly impacted the Korean economy, this research repeated the regression analysis three years (1994 to 1996) before the crisis and three years (1999 to 2001) after. This study also verifies whether the regression coefficient Bj of the fundamental analysis variables differ before and after the said crisis.

$$R_{t,i}=a_0+a_1\Delta EARN_{t,i}+b_{1t}\Delta SALINV_{t,i}+ b_{2t}\Delta SALAR_{t,i} + b_{3t}\Delta CAPEXA_{t,i} + b_{4t}\Delta GMSAL_{t,i}$$
$$+ b_{5t}\Delta SALSA_{t,i} + b_{6t}\Delta BDAR_{t,i} + b_{7t}\Delta ETR_{t,i} + b_{8t}\Delta SALPP_{t,i}+ b_{9t}\Delta SALA_{t,i} +$$
$$b_{10t}\Delta SALAP_{t,i} + b_{11t}\Delta CFPS_{t,i} + b_{12t}\Delta ASDB_{t,i} + b_{13t}\Delta DEBT_{t,i} + b_{14t}\Delta ACGS_{t,i} +$$
$$b_{15t}\Delta ASLR_{t,i} + b_{16t}\Delta ASA_{t,i} +V_{t,i} \cdots\cdots\cdots\cdots\cdots\cdots (2)$$

The period before and after the Financial Crisis are divided into two periods, 1994-1996 and 1999-2001, because 1997 was the year of the crisis and 1998, the following year, was excluded. In 1999, the Accounting Institute aimed to enhance the transparency of accounting was established. Furthermore, in order to verify whether there were changes in the fundamental analysis variables which investors consider important in making decisions on investment, the regression analysis is conducted on the Regression Model (3) in which the dummy variable, Post, representing the period before and after the crisis was added into the regression expression.

$$R_{t,i}=a_0+a_1\Delta EARN_{t,i}+b_{1t}\Delta SALINV_{t,i}+ b_{2t}\Delta SALAR_{t,i} + b_{3t}\Delta CAPEXA_{t,i} + b_{4t}\Delta GMSAL_{t,i} +$$
$$b_{5t}\Delta SALSA_{t,i} + b_{6t}\Delta BDAR_{t,i} + b_{7t}\Delta ETR_{t,i} + b_{8t}\Delta SALPP_{t,i}+ b_{9t}\Delta SALA_{t,i} +$$
$$b_{10t}\Delta SALAP_{t,i} + b_{11t}\Delta CFPS_{t,i} + b_{12t}\Delta ASDB_{t,i} + b_{13t}\Delta DEBT_{t,i} + b_{14t}\Delta ACGS_{t,i} +$$
$$b_{15t}\Delta ASLR_{t,i} + b_{16t}\Delta ASA_{t,i} + c_{1t}POST*\Delta SALINV_{t,I} + c_{2t}POST*\Delta SALAR_{t,i} +$$

$$c_{3t}POST^*\Delta CAPEXA_{t,i} + c_{4t}POST^*\Delta GMSAL_{t,i} + c_{5t}POST^*\Delta SALSA_{t,i} +$$
$$c_{6t}POST^*\Delta BDAR_{t,i} + c_{7t}POST^*\Delta ETR_{t,i} + c_{8t}POST^*\Delta SALPP_{t,i} + c_{9t}POST^*\Delta SALA_{t,i}$$
$$+ c_{10t}POST^*\Delta SALAP_{t,i} + c_{11t}POST^*\Delta CFPS_{t,i} + c_{12t}POST^*\Delta ASDB_{t,I} +$$
$$c_{13t}POST^*\Delta DEBT_{t,i} + c_{14t}POST^*\Delta ACGS_{t,i} + c_{15t}POST^*\Delta ASLR_{t,i} +$$
$$c_{16t}POST^*\Delta ASA_{t,i} + V_{t,i}.\cdots\cdots\cdots (3)$$

Provided POST= 1 if after the Financial Crisis, otherwise, POST= 0

III. Results

Table 4: shows the results of the regression analysis on each of the two period-groups before and after the crisis, into which the sample was divided based on the criteria set up previously. The explanation ability of the fundamental analysis variables before and after the crisis was compared. The R^2 of the period after the Financial Crisis was 0.172, higher than 0.102 of the period before the Financial Crisis. This means the explanation ability of the fundamental analysis variables after the Financial Crisis was found to be higher. Also, when only accounting profits were used as an independent variable, the R^2 for the period after the Financial Crisis was 0.050, which is higher than 0.026 for the period before the Financial Crisis. This now means that the explanation ability of accounting profits was found to be higher. With regard to the increase in the additional explanation ability of the fundamental analysis variables, the R^2 increase before the crisis was 0.076 whereas the R^2 increase after the crisis was 0.122, which means the additional explanation ability of the fundamental analysis variables after the Financial Crisis was found to be higher.

The results of the regression analysis by group showed that before the Financial Crisis, Gross Profits (ΔGMSAL), Sales (ΔSALA), and Cost of Sales (ΔCGSA) were found to be statistically significant at the level of 1%; Liquidity (ΔASDB) and Debt (ΔDEBT) were found to be significant at the level of 5%; and Inventory (ΔSALINV) was found to be significant at the level of 10%. After the Financial Crisis, Accounts Receivable (ΔSALAR), Sales (ΔSALA), Cost of Sales (ΔCGSA) and Personnel Expenses (ΔASLR) were found to be statistically significant at the level of 1%; Gross Profits (ΔGMSAL) were found to be significant at the level of 5%; and Liquidity (ΔASDB) and Debt (ΔDEBT) were found to be significant at the level of 10%. Thus, there were differences in significant fundamental analysis variables among the period-groups before and after the crisis.

Inventory (ΔSALINV) was found to be significant before the Financial Crisis but found insignificant after. Before the crisis, Inventory responded significantly in the positive (+) direction when the increase rate of sales is greater than that of Inventory, which means that in the period after the crisis it did not respond significantly. This means that before the crisis, Inventory showed significant results when the increase rate of Sales is higher than that of Inventory. After the crisis however, the mere fact that the increase rate of Sales is higher than that of Inventory was not received as good signal in the stock market.

As opposed to this, Accounts Receivable (ΔSALAR) and Personnel Expenses (ΔASLR) were not significant before the Financial Crisis but were

found to be significant after, with the negative (-) sign changing into positive (+). This means that, with regard to Accounts Receivable (ΔSALAR), the increasing rate of Accounts Receivable exceeding that of Sales was received as negative (-) signal in the stock market during the Financial Crisis. In other words, the stock market responded negatively to the softening of payment terms or increasing Accounts Receivable during the crisis, all of which are commonly used to expand the external growth through sales growth. This is thought to be attributable to the fact that the increase in sales by the softening of payment terms deteriorates profitability. Also regarding Personnel Expenses, it is thought to be attributable to the fact that the increase in personnel expenses exceeding the industry average was received negatively (-) in the stock market since personnel expenses became a burden to a company's profitability as enterprises experienced the rapid rise in personnel expenses after the crisis.

Meanwhile, Gross Profits (ΔGMSAL) showed negative (-) coefficients before the Financial Crisis but positive (+) coefficients after. This means that before the crisis, growth was considered more important in the stock market than profitability. After the crisis however, profitability was considered more important. Such changes mean that investors saw profitability in their stock market investments as more important since companies that continued to focus on gross sales-oriented growth had difficulties during the crisis. This is attributable to the fact that after the Financial Crisis, the investment analysts of securities companies placed the greatest weight on profitability in their fundamental analysis.

Table 4: Comparison of the Results of Regression Analysis by Group Before and After the Financial Crisis

$R_{t,i}=a_0+a_1\Delta EARN_{t,i}+b_{1t}\Delta SALINV_{t,i}+ b_{2t}\Delta SALAR_{t,i} + b_{3t}\Delta CAPEXA_{t,i} + b_{4t}\Delta GMSAL_{t,i} + b_{5t}\Delta SALSA_{t,i} + b_{6t}\Delta BDAR_{t,i} + b_{7t}\Delta ETR_{t,i} + b_{8t}\Delta SALPP_{t,i}+ b_{9t}\Delta SALA_{t,i} + b_{10t}\Delta SALAP_{t,i} + b_{11t}\Delta CFPS_{t,i} + b_{12t}\Delta ASDB_{t,i} + b_{13t}\Delta DEBT_{t,i} + b_{14t}\Delta ACGS_{t,i} + b_{15t}\Delta ASLR_{t,i} + b_{16t}\Delta ASA_{t,i} +V_{t,i}$

	Whole	Financial Crisis	
		Before	**After**
ΔEARN	0.178 (0.000)	0.152 (0.000)	0.142 (0.000)
ΔSALINV	0.060** (0.012)	0.082* (0.055)	0.006 (0.891)
ΔSALAR	0.060*** (0.009)	-0.042 (0.301)	0.107*** (0.005)
ΔCAPEXA	0.068** (0.014)	0.014 (0.778)	-0.009 (0.854)
ΔGMSAL	- 0.009 (0.678)	-0.106*** (0.004)	0.088** (0.017)
ΔSALSA	0.075*** (0.002)	0.017 (0.756)	0.072 (0.114)
ΔBDAR	- 0.062*** (0.004)	-0.033 (0.377)	- 0.040 (0.312)
ΔETR	0.062*** (0.003)	-0.017 (0.651)	0.014 (0.697)
ΔSALPP	0.085*** (0.001)	-0.021 (0.629)	0.053 (0.234)

ΔSALA	0.157*** (0.000)	0.285*** (0.000)	0.672*** (0.000)
ΔSALAP	0.012 (0.560)	0.026 (0.471)	0.026 (0.466)
ΔCFPS	0.014 (0.495)	-0.011 (0.816)	-0.000 (0.990)
ΔASDB	0.123*** (0.001)	0.140** (0.024)	0.128* (0.086)
ΔDEBT	- 0.130*** (0.000)	-0.154** (0.013)	-0.132* (0.080)
ΔACGS	0.179*** (0.000)	0.361*** (0.000)	0.585*** (0.000)
ΔASLR	0.093*** (0.000)	-0.072 (0.161)	0.134*** (0.004)
ΔASA	0.105*** (0.000)	0.019 (0.732)	0.006 (0.903)
R^2	0.117	0.102	0.172

*/**/*** represent statistical significance at the level of 10%, 5% and 1%, respectively.

Table 5 shows the results of the regression analysis by using POST, which is the dummy variable additionally representing the periods before and after the Financial Crisis in order to analyze the differences in the use of the fundamental analysis variables before and after the crisis. The results of the regression analysis showed that the R2, which represents the explanation amount of the regression model, was 0.143, representing an increase from the R2 of 0.117 shown before POST was taken. The F value of significant verification for the adaptability of the regression model was 11.403 and p value was 0.000, which was statistically significant at the level of 1%.

The dummy variables of equipment investment, POST*ΔCAPEX, of Gross Profits, POST*ΔGMSAL, of Sales, POST*ΔSALA and of Cost of Sales POST*ΔCGSA were significant at the level of 1%. Also, the dummy variables of Accounts Receivable POST*ΔSALAR, of Personnel Expenses, POST*ΔASLR and of Assets, POST*ΔASA were significant at the level of 5%.

With regard to the signs of beta value of the standardized coefficients of each value, the dummy variables of Gross Profits, POST*ΔGMSAL, of Sales, POST*ΔSALA, of Cost of Sales, POST*ΔCGSA, of Accounts Receivable POST*ΔSALAR, and of Personnel Expenses, POST*ΔASLR showed a positive sign (+), while the dummy variables of Equipment Investment, POST*ΔCAPEX, and of Assets, POST*ΔASA showed a negative (-) sign. This means that the fundamental analysis variables representing profitability such as Gross Profits (ΔGMSAL), Cost of Sales (ΔCGSA), Personnel Expenses (ΔASLR) and Sales (ΔSALA), and Accounts Receivable (ΔSALAR) became more significant in the stock market after the crisis. Such changes mean that investors consider profitability and stability in their stock market investments as more important since enterprises that continued to focus on gross sales-oriented growth had difficulties during the crisis. Also, Equipment Investment (ΔCAPEXA) and Assets (ΔASA), all of which represent the growth of the scale of enterprises, were found to have negative (-) effects during the crisis.

This agrees with the fact that company restructuring after the crisis was received as a good sign in the stock market.

Accordingly, the three hypotheses, Hypothesis 1 (which says there are no differences in the utility of the financial statements information utilizing the fundamental analysis variables before and after the crisis), Hypothesis 2 (which says there are no differences in the value correlations of the fundamental analysis variables representing profitability such as Gross Profits (ΔGMSAL), Cost of Sales (ΔCGSA), and Personnel Expenses (ΔASLR) before and after the crisis) and Hypothesis 3 (which says there are no differences in the value correlations of the fundamental analysis variables representing gross sales growth such as Equipment Investment (ΔCAPEXA) and Assets (ΔASA) before and after the crisis) were rejected.

In conclusion, there were differences in the value correlations of the fundamental analysis variables in the periods before and after the Financial Crisis, and the explanation ability of the fundamental analysis variables and profits was enhanced after the crisis. After the crisis, the value correlations of Gross Profits (ΔGMSAL), Cost of Sales (ΔCGSA) and Personnel Expenses (ΔASLR) of the fundamental analysis variables representing profitability were increased. On the other hand however, Equipment Investment (ΔCAPEXA) and Assets (ΔASA) of the fundamental analysis variables representing gross sales growth were found to have negative (-) effects.

Table 5: The Regression Analysis Result of the Regression Model (3)

$R_{t,i}=a_0+a_1\Delta EARN_{t,i}+ b_{1t}\Delta SALINV_{t,i}+ b_{2t}\Delta SALAR_{t,i} + b_{3t}\Delta CAPEXA_{t,i} + b_{4t}\Delta GMSAL_{t,i} + b_{5t} \Delta SALSA_{t,i} + b_{6t}\Delta BDAR_{t,i} + b_{7t}\Delta ETR_{t,i} + b_{8t}\Delta SALPP_{t,i}+ b_{9t}\Delta SALA_{t,i} + b_{10t}\Delta SALAP_{t,i} + b_{11t} \Delta CFPS_{t,i} + b_{12t}\Delta ASDB_{t,i} + b_{13t}\Delta DEBT_{t,i} + b_{14t}\Delta ACGS_{t,i} + b_{15t}\Delta ASLR_{t,i} + b_{16t}\Delta ASA_{t,i} + c_{1t}POST*\Delta SALINV_{t,i} + c_{2t}POST*\Delta SALAR_{t,i} + c_{3t}POST*\Delta CAPEXA_{t,i} + c_{4t}POST*\Delta GMSAL_{t,i} + c_{5t}POST*\Delta SALSA_{t,i} + c_{6t}POST*\Delta BDAR_{t,i}+ c_{7t}POST*\Delta ETR_{t,i} + c_{8t}POST*\Delta SALPP_{t,I} + c_{9t}POST*\Delta SALA_{t,i}+ c_{10t}POST*\Delta SALAP_{t,i} + c_{11t}POST*\Delta CFPS_{t,i} + c_{12t}POST*\Delta ASDB_{t,i} + c_{13t}POST*\Delta DEBT_{t,i} + c_{14t}POST*\Delta ACGS_{t,i} + c_{15t}POST*\Delta ASLR_{t,i} + c_{16t}POST*\Delta ASA_{t,i} + V_{t,i}$

	Non-standardized Coefficients		Standardized Coefficients	t	Significance Probability	Colinearity Statistical Measures	
	B	Standard Error	Beta			Tolerance Limit	VIF
(상수)	0.034	0.016		2.070	0.039		
ΔEARN	0.294	0.042	0.156	7.000	0.000	0.866	1.154
ΔSALINV	0.111	0.045	0.071	2.459	0.014	0.520	1.922
ΔSALAR	0.048	0.039	0.033	1.211	0.226	0.564	1.773
ΔCAPEXA	0.002	0.000	0.116	3.402	0.001	0.371	2.697
ΔGMSAL	- 0.007	0.006	- 0.030	-1.338	0.181	0.847	1.181
ΔSALSA	0.143	0.070	0.067	2.050	0.041	0.400	2.502
ΔBDAR	- 0.008	0.004	- 0.052	-2.146	0.032	0.734	1.363
ΔETR	0.012	0.004	0.069	2.977	0.003	0.791	1.264
ΔSALPP	0.001	0.001	0.049	1.635	0.102	0.483	2.071
ΔSALA	0.004	0.001	0.123	3.287	0.001	0.305	3.275
ΔSALAP	0.001	0.011	0.002	0.063	0.950	0.682	1.467
ΔCFPS	0.000	0.000	0.003	0.146	0.884	0.969	1.032
ΔASDB	0.183	0.058	0.132	3.177	0.002	0.250	4.002

ΔDEBT	- 0.279	0.076	- 0.157	-3.649	0.000	0.232	4.305
ΔACGS	0.024	0.003	0.189	8.466	0.000	0.863	1.158
ΔASLR	0.076	0.068	0.034	1.117	0.264	0.466	2.146
ΔASA	0.373	0.107	0.136	3.495	0.000	0.283	3.536
POST*ΔSALINV	- 0.079	0.080	- 0.029	-0.990	0.322	0.498	2.007
POST*ΔSALAR	0.139	0.070	0.053	1.980	0.048**	0.609	1.643
POST*ΔCAPEXA	- 0.002	0.001	- 0.084	-2.624	0.009***	0.421	2.377
POST*ΔGMSAL	0.042	0.015	0.065	2.835	0.005***	0.823	1.214
POST*ΔSALSA	0.026	0.105	0.008	0.243	0.808	0.361	2.770
POST*ΔBDAR	- 0.003	0.007	- 0.011	-0.437	0.662	0.663	1.509
POST*ΔETR	- 0.010	0.009	- 0.025	-1.080	0.280	0.776	1.288
POST*ΔSALPP	0.002	0.001	0.042	1.427	0.154	0.489	2.046
POST*ΔSALA	0.014	0.002	0.285	5.613	0.000***	0.166	6.025
POST*ΔSALAP	0.014	0.019	0.018	0.723	0.470	0.679	1.473
POST*ΔASDB	- 0.054	0.109	- 0.025	-0.496	0.620	0.168	5.947
POST*ΔDEBT	0.125	0.137	0.048	0.909	0.363	0.156	6.398
POST*ΔACGS	1.240	0.195	0.281	6.360	0.000***	0.219	4.568
POST*ΔASLR	0.304	0.121	0.079	2.508	0.012**	0.430	2.325
POST*ΔASA	- 0.429	0.176	- 0.091	-2.435	0.015**	0.307	3.263
Explanation Ability of Model	Sample Size : 1,999 R^2 : 0.156 Revised R^2 : 0.143 F value : 11.403(p Value .000)						

*/**/*** denotes statistical significance in the level of 10%, 5% and 1%, respectively.

IV. Conclusion and Suggestions

In this study's analysis before and after the Financial Crisis, the value correlations of the accounting information and the additional explanation ability of the fundamental variables were found to be very high after the crisis. The significant fundamental variables varied before and after the crisis. Inventory (SALINV) was found to be significant before the Financial Crisis but was found insignificant after. This means that the increase rate of Sales exceeding that of Inventory, responded in the positive (+) direction before the Financial Crisis, but did not respond significantly after. This means that during the crisis, the mere fact that the increase rate of Sales is greater than that of Inventory was not received as good signal in the stock market. On the other hand, Accounts Receivable (ΔSALAR) and Personnel Expenses (ΔASLR) were not significant before the Financial Crisis but significant after the crisis, and the signs also changed from negative (-) to positive (+). This means that during the crisis, the increase rate of Accounts Receivable exceeding that of Sales was received as a negative (-) sign in the stock market. In other words, during the crisis, the stock market responded negatively to the easing of payment terms that is commonly used for the gross sales growth through expanding sales of the enterprises or the increasing of Accounts Receivable through sales on credit.

Regarding Personnel Expenses (ΔASLR), rapid increase in personnel expenses after the crisis became a burden on a company's profitability, so the increase in Personnel Expenses was received as a negative (-) signal in the stock market. Meanwhile, Gross Profits (ΔGMSAL) showed negative (-) coefficients before the crisis, but showed positive (+) coefficients after. This means that before the crisis, the stock market considered growth more important than profitability, but after the crisis, profitability became more important. Such changes mean that while undergoing the crisis, companies that continued to focus on gross sales-oriented growth underwent many difficulties, so that investors gave greater weight on profitability when investing in the stock market.

Also, the results from conducting regression analysis using POST, which is the dummy variable representing the periods before and after the Financial Crisis, show that Gross Profits (POST*ΔGMSAL), Sales (POST*ΔSALA), Cost of Sales (POST*ΔCGSA), Accounts Receivable (POST*ΔSALAR) and Personnel Expenses (POST*ΔASLR) showed positive (+) signs, but Equipment Investment (POST*ΔCAPEX) and Assets (POST*ΔASA) showed negative (-) signs. This means that Gross Profits (ΔGMSAL), Cost of sales (ΔCGSA) and Personnel Expenses (ΔASLR), all of which are the fundamental analysis variables representing profitability, became more significant in the stock market after the crisis. Such changes mean that during crisis, companies that continued to focus on gross sales-oriented growth underwent many difficulties, so that investors gave greater weight on profitability and stability when investing in the stock market. Equipment Investment (ΔCAPEXA) and Assets (ΔASA), both of which represent the growth of the scale of the enterprise, were found to have negative (-) effects during the crisis. This agrees with the fact that company restructuring was received as a good signal in the stock market after the crisis.

This research contributes to the existing research works as follows:

First, the utility of the fundamental analysis generally used for evaluating stocks in Korea has been verified on an actual proof basis, and as opposed to existing works, the fundamental analysis variables used by securities analysts in Korea have been additionally utilized for verification. Second, this research has presented the change that took place sometime in 1997 during the Financial Crisis, in which participants in the stock market, when establishing their investment strategy, emphasize more on profitability than on the gross sales or size of enterprises. Third, this study has presented that there are differences before and after the Financial Crisis in the fundamental analysis variables which securities analysts after the crisis consider significant.

Notwithstanding this contribution, there may be limitations in generalizing the results of this research since only the listed manufacturing enterprises were analyzed. The influence of the industry was not removed. In future research, research works on the enterprises that are included not only in the manufacturing industry but also in the service and financial industries are considered meaningful. Additional research works that shall utilize the unique fundamental analysis variables that are used by securities analysts on an industry basis are necessary.

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THE PREDICTIVE ABILITY OF ACCRUAL MODELS WITH RESPECT TO FUTURE CASH FLOWS

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Abstract
Many prior studies advocate the variant predictive power of the accrual models with respect to future cash flows. This paper investigates the sobering predictive power of the accrual models. Results indicate that theoretical accrual models such as Barth, Cram, and Nelson (2001) are highly correlated with future cash flows, but they do not have the predictive ability of the future cash flows in a precise sense.
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Keywords: *Accruals, Cash flow, Earnings, Cash flow prediction, Panel data analysis*

I. Introduction

Barth, Cram, and Nelson (2001), hereafter BCN, investigates the role of accruals in predicting future cash flows by comparing the explanatory power of equations (1) and (2).

$$CF_{i,t+1} = \phi + \sum_{\tau=0}^{k} \phi_{t-\tau} EARN_{i,t+1} + u_{i,t} \quad (1)$$

$$CF_{i,t+1} = \phi + \phi_{CF} CF_{i,t} + \phi_{AR} \Delta AR_{i,t} + \phi_I \Delta INV_{i,t} + \phi_{AP} \Delta AP_{i,t} \\ + \phi_D DEPR_{i,t} + \phi_{AM} AMORT_{i,t} + \phi_O OTHER_{i,t} + u_{i,t} \quad (2)$$

BCN extended analysis of the Dechow, Kothari, and Watts (1998), hereafter DKW, reveals that the various accrual components of earnings capture different information about expected future cash flows. BCN suggests that disaggregated current earnings has significantly more predictive ability than current and up to six years lagged aggregate earnings. But the equation (2) is not exact conclusion of their assumption.
The specification of equation (1) comes from reduced-form equation (3).

$$E_t[CF_{t+1}] = (1 - \gamma_1(1-\pi)\pi^{-1}[\beta + \gamma_2(1-\beta) - \beta\gamma_2])EARN_t$$
$$+ \gamma_1(1-\pi)\pi^{-1}[\beta + \gamma_2(1-\beta) - 2\beta\gamma_2]EARN_{t-1} \quad (3)$$
$$+ \gamma_1(1-\pi)\pi^{-1}\beta\gamma_2 EARN_{t-2} + u_{i,t}$$

Where,

   CF: cash flow,

   $EARN$: earnings.

And the specification of equation (2) comes from reduced-form equation (4).

$$E_t[CF_{t+1}] = CF_t + (1 - (1-\beta)\gamma_1\gamma_2(1-\pi)\alpha^{-1})\Delta AR_t + (1-\beta)\Delta INV_t - \Delta AP_t + u_t \quad (4)$$

Where,

   $deltaAR$: one period change of accounts receivable,

   $deltaINV$: one period change of inventory,

   $deltaAP$: one period change of accounts payable.

That is, the following condition should be tested.

$$\phi_{CF} = 1, \phi_{AP} = -1$$

However, only signs are given as the prediction for the parameters. Indeed, the former coefficient is about 0.59, t-statistic of it is 61.34, the later coefficient is -0.56 and t-statistics is -28.58. Thus means the conditions are not satisfied. So, most of prior research which estimate equation (4) does not compare predicting ability of derived model.

The remainder of the paper is organized as follows. Section II describes the sample and presents the findings. Section III summarizes and concludes.

II. Data and Empirical Results

Data are from the 2008 Nikkei Needs files. Our sample is 104 firms of the Japanese automobile industry listed on Japanese stock exchange from fiscal year 1969 to fiscal year 2007. The sample is unbalanced panel of 33years and 104 firms.

Table: 1 Descriptive Statistics

	EARN	CF	deltaAR	deltaINV	deltaAP	DEPR	OTHER
Mean	0.0375	0.0705	0.0480	0.0116	0.0354	0.0526	-0.0045
Median	0.0250	0.0682	0.0099	0.0020	0.0089	0.0506	0.0085
Maximum	30.5672	2.2040	105.0249	23.6418	67.6766	0.2129	0.4163
Minimum	-0.1279	-0.3518	-0.2950	-0.2688	-0.1900	0.0000	-32.6269
Std. Dev.	0.5586	0.0795	1.9189	0.4330	1.2369	0.0289	0.5979
Observations	2997	2997	2997	2997	2997	2997	2997

All Variables deflated by total assets

Table: 2 Estimation Results

Panel A (Panel Data Analysis, Fixed Effect)
Total panel (unbalanced) observations: 2831
Dependent Variable: *CF*

Variable	Coefficient	Std. Error	t-Statistic	P-Value
Intercept	0.060225	0.002171	27.743	0.0000
EARN(-1)	0.343844	0.083368	4.124	0.0000
EARN(-2)	0.002294	0.000123	18.672	0.0000

R^2: 0.2506
Adjusted R^2: 0.2223
S.E. of regression: 0.0606

Table: 3 Estimation Results

Panel B (Panel Data Analysis, Fixed Effect)
Total panel (unbalanced) observations: 2831
Dependent Variable: *CF*

Variable	Coefficient	Std. Error	t-Statistic	P-Value
Intercept	0.020	0.005	4.394	0.000
CF(-1)	0.312	0.077	4.029	0.000
deltaAR(-1)	0.284	0.072	3.928	0.000
deltaINV(-1)	0.139	0.100	1.385	0.166
deltaAP(-1)	-0.372	0.089	-4.193	0.000
DEPR(-1)	0.495	0.102	4.846	0.000
OTHER(-1)	0.260	0.118	2.200	0.028

R^2: 0.2978
Adjusted R^2: 0.2697
S.E. of regression: 0.0577

Table: 4 Estimation Results

Panel C (Panel Data Analysis, Fixed Effect)
Total panel (unbalanced) observations: 2831
Dependent Variable: *CF-CF*(-1)+*deltaAP*(-1)

Variable	Coefficient	Std. Error	t-Statistic	P-Value
Intercept	0.012	0.000	1227.127	0.000
deltaAR(-1)	0.016	0.008	1.945	0.052
deltaINV(-1)	-0.069	0.036	-1.908	0.057

R^2: 0.0375
Adjusted R^2: 0.0004
S.E. of regression: 0.0474

Panel A of table 1 and Panel B of table 2 are the same specification but we use panel data analysis, and the results are almost same. However, Panel C of table 3 is the restricted form of coefficients. It follows insignificant coefficients.

III. Conclusions

This paper investigates the sobering predictive power of the accrual models with panel data from Japanese automobile industries. Our results indicate that theoretical accrual models such as Barth, Cram, and Nelson (2001) are highly correlated with future cash flows, but they do not have the predictive ability of the future cash flows in a precise sense. The coefficient of lagged cash flow and disaggregating cash flow are significantly lower than predicted by the model.

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TRANSPARENCY REPORTS AND THE PERCEPTION THEY CREATE ON THE AUDIT PROFESSION – CASE OF THE REPUBLIC OF MACEDONIA

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Abstract

The term transparency was introduced for the first time in the audit practice in the Republic of Macedonia with the Audit Law in September 2005. Article 26 of the Audit Law stipulates the requirement for an audit firm or a statutory auditor – sole proprietor to publish in at least one mass media or on their websites, within three months of the end of each financial year, the annual transparency report. In the spirit of integration of the Republic of Macedonia in the EU, minimum information requirements than need to be included in the transparency report fully correspond to Article 38 of the Revised Eighth Company Law Directive. Taking into account the fact that audit firms presented the first transparency reports in 2007 and 2008, this paper will, through detailed and comparative analysis of their key segments, make an attempt to give a clear picture of the developments in the audit profession in the Republic of Macedonia. The paper comprises three segments. The first segment gives brief review of the developments in the audit profession in the Republic of Macedonia prior to the introduction of the transparent reporting requirement for the audit firms. The second one places the focus on analyzing and comparing the information presented in the transparency reports in 2008. The third segment, on the basis of previously carried out comparative analysis, shows the trends on the audit services market in 2008 in the Republic of Macedonia. At the same time, we would also like to point out to the potential benefits the information in transparency reports provide for the audit firms on one hand, and for the users of audit services on the other.

Key words: transparency report.

Introduction

In the period 1945-1991, Republic of Macedonia, as an integral part of SFRY, was building plan economy. At that time, like in the other former socialist countries, the audit profession was not developed in the Republic of Macedonia. Following the breakdown of SFRY in 1991, transition period in the Republic of Macedonia was marked with privatization of socially-owned enterprises. Carrying out just privatization was conditioned, among other things, by true and fair presentation of the financial statements. Unfortunately, despite the emphasized need for credibility in the presented financial statements, in the period 1991-1997 audit profession was in the margins of the transition process. First steps towards creating the necessary climate for establishing the audit profession were undertaken in the post-privatization period by adopting the Audit Law in December 1997. Signing the Stabilization and Association Agreement (SAA) with the European Union and its Member States on 9 April 2001 confirmed the decisiveness of the Republic of Macedonia to integrate in the European family. Not even the audit profession was resistant to the requirements for harmonization with the *Acquis Communautaire*. On the contrary, in a relatively short period of time, in September 2005, new Audit Law was adopted, fully harmonized with the Revised Eighth Company Law Directive. New Audit Law introduced essential changes in the audit profession, which were assessed as a step forward in the EU integration processes. The obligation to present transparency report, by precisely defining the information necessary to be disclosed therein pursuant to the Law, reached the most sensitive and the most mysterious part of the operations of the audit firms in

the Republic of Macedonia. With one-year delay, first transparency reports were presented in the course of 2008, covering the operations of the audit firms in 2007. Segments below describe, in more details, the trends in the audit profession in the Republic of Macedonia through thorough analysis of information presented in certain segments in the transparency reports.

Developments of audit profession in the Republic of Macedonia prior to introducing the requirement to present transparency report

Under the Audit Law dated 1997, conditions for creating the audit profession, with attributes immanent for the developed market economies, were established for the first time in the Republic of Macedonia. The Law defined, for the first time, the requirements for registration of audit firms as primary holders of audit activities. At the same time, the Law precisely stated the preliminary criteria to be met by individuals that wanted to become part of the audit profession. What was immanent for the environment in which the Law was adopted was the absence of strong professional association of accountants and auditors, that could be the generator of changes. Association of Accountants, Financial Workers and Auditors, having tradition longer than half a century, remained passive at the time the foundations of the profession were laid down. Taking such trends in the accounting profession into account, delicate mission related to the creation of the professional regulation in the audit profession with the Law was entrusted to the Ministry of Finance. Having in mind the fact that the Law expressed the commitment to accept and

implement the international regulation as a substitute for the national one, in 1998 Ministry of Finance translated IFAC's IAS. One year later, Ministry of Finance translated the IFAC's Code of Ethics for Professional Accountants, which was accepted in the national profession in its original form and contents.

In 2001, Minister of Finance adopted the training program for the potential candidates to pass the exam for acquiring the title of statutory auditor. Ministry of Finance also adopted the Rulebook on the Manner of Passing the Exam for Acquiring the Title of Certified Auditor by precisely stating the exam criteria under the program. Logical continuation of the undertaken activities was for the Minister of Finance to be assigned the toughest task to appoint the Exam Commission. The first exam for acquiring the professional title was held in December 2001, organized by the Ministry of Finance. By having two exam cycles annually (in May and December), nine exam cycles were carried out as of December 2005 inclusive, and the initial audit core, comprising 147 statutory auditors, was established. However, despite the generally created climate for introduction of the audit profession in the accounting infrastructure, the Law did not cover all aspects that were crucial for this profession. Part concerning the professional development of the auditors after acquiring the title of statutory auditor remained fully unregulated. Basically, the Law left series of opened issues, the resolution of which became an imperative in the next several years. Resolving these issues initiated radical changes in the existing Audit Law, which, after full 7 years, was substituted with a new one.

In the meantime, on 9 April 2001, Republic of Macedonia became the first country in the region to sign the Stabilization and Association Agreement

(SAA) with the European Union and its Member States. Parliament ratified the SAA on 13 April 2001, thus confirming the strategic interest of the Republic of Macedonia and the political commitment for integration in the European structures. Article 68 of SAA clearly includes the obligations for harmonizing the national legislation with the *Acquis Communautaire*, creating own experience and guidelines in this process. On 9 November 2005, the country was delivered positive *Avis* for the status of a candidate country, with detailed standards to be met.

The *Avis* clearly pointed out the need for the candidate country to meet the EU criteria, among which was the acceptance of 31 Chapters of the *Acquis Communautaire*. Adoption and implementation of the relevant components in Chapter 5 (Company Law) of the *Acquis Communautaire* pertaining to accounting and audit is the key part of all the activities envisaged in the *Country Action Plan adopted in June 2005 by the Steering Committee appointed by the Government*. In line with the commenced EU integration processes, enforcement of the new Audit Law should provide for a significant improvement of audit quality, as well as commencing the process of approximation of the audit profession in the Republic of Macedonia to the European family.

Having in mind the fact that in the past period the term "self-regulation" was unknown to the members of this profession, primary task of the new Audit Law was commencement of the process of deregulation of the audit profession. Deregulation should contribute to transfer of the competences in the field of creating the professional regulation and certifying the statutory

auditors by the Ministry of Finance in the Institute for Certified Auditors established under this Law. More specifically, the Law envisages establishment of a professional association of statutory auditors with a wide range of obligations and responsibilities, having all statutory auditors and audit firms as its members. Assembly for the incorporation of the Institute for Certified Auditors of the Republic of Macedonia (hereinafter: ICARM) was held on 23 May 2006.

Establishment of ICARM caused avalanche of changes in the audit profession, in particular in the field of profession public oversight, assessment of the quality of work of the statutory auditors and the audit firms, changes in the exam program for acquiring the title of statutory auditor, introduction of continuous professional development of statutory auditors, defining the obligation for the audit firms to present transparency report on annual basis, etc. Part of these activities has already commenced, while part of them will start in the period to come.

Process of professional training and certification of statutory auditors by ICARM commenced in the course of 2009. In addition, training within the continuous professional development of statutory auditors was carried out for the first time in 2009, and preparations are made for introduction of quality control over the operations of audit firms and statutory auditors.

Transparency reports and perception they create on the audit profession in the Republic of Macedonia

Establishment of ICARM led to creation of the key pre-conditions for development of a modern audit profession with all attributes immanent for the EU Member States. Absence of strong professional association of statutory auditors in the past period not only slowed down the development of the profession itself, but also completely blocked the integration of the national auditors in IFAC and FEE. Establishment of ICARM has opened new horizons for the statutory auditors in the Republic of Macedonia.

During the past eight years by the time the first Audit Law was adopted, audit firms operated in conditions of unfair competition on the audit market on which, unfortunately, quality was not the key criterion for attracting clients, but it was rather the price of the service offered. Most often offered price for carrying out audit by the local audit firms did not correspond to the time and the complexity of the engagement and the competence of the auditors. Unscrupulous race for profit and clients evidently led to significant deviations from the enforcement of the professional regulation, in particular in the methodological approach of certain audit firm and the behavior of the statutory auditors. Despite the legal limitation for the audit firm to carry out audit and render audit services at the same client, it has never been proven that this legal requirement de fact functions in the national audit practice. In conditions of absence of installed mechanism to observe the rules of the game and adequate quality control, statutory auditors and audit firms observing the professional regulation were discontented by the unprofessional behavior of their colleagues.

Such trends initiated the need to introduce, as a novelty to the existing Audit Law, the obligation for the audit firm or the statutory auditor – sole proprietor to publish in at least one mass media or on their websites, within three months of the end of each financial year, the annual transparency report. Transparency report should provide for a permanent insight in monitoring the rules of the game in the competition on the market by the members of this profession. The report should include a wide range of information providing clear picture of the type and the volume of activities carried out by the audit firm during the year and the turnover thus realized. More precisely, pursuant to Article 26 of the Audit Law, annual transparency report should include the following information: (1) description of the legal structure and ownership; (2) description of the professional network and the legal and structural arrangements in the network they belong to; (3) description of the governance structure of the audit firm or the statutory auditor – sole proprietor; (4) description of the internal quality control system of the audit firm or the statutory auditor – sole proprietor and a statement by the administrative or the management body on the effectiveness of its functioning; (5) list of entities being audited during the preceding year; (6) statement on the policy followed by the audit firm or the statutory auditor – sole proprietor concerning the continuing education of the statutory auditors and (7) financial information on the total turnover realized on the basis of audit and on the basis of other fees, broken down by four categories of audit services, additional services for quality assurance, tax advisory service and other non-audit services. (Audit Law, Official gazette of the RM, no. 79. p. 99, 21 September 2005)

Transparency reports should be signed by the authorized person at the audit firm, i.e. the statutory auditor – sole proprietor, as the case may be.

If Article 26 Transparency Report in the Law is compared with Article 40 Transparency report in the Revised Eighth Company Law Directive, one can conclude that there is high level of harmonization regarding the issue on compulsory information to be presented in the transparency report. However, regarding the information requirements to be part of the transparency report, Revised Eighth Company Law Directive is more rigorous, in particular the following points: (e) an indication of when the last quality assurance review referred to in Article 29 took place, (g) a statement concerning the audit firm's independence practices which also confirms that an internal review of independence compliance has been conducted and (j) information concerning the basis for the partners remuneration. (Directive 2006/43/EC of the European Parliament and of the Council of 17 may 2006 on statutory audit of annual accounts and consolidated accounts)

New Audit Law entered into force in the course of 2005, imposing the obligation for the audit firms to submit the annual transparency report in 2007 covering their operations in 2006. Unfortunately, during 2007, most of the audit firms did not submit annual transparency reports. Having in mind the fact that in 2007 ICARM was engaged in building its architecture and it worked on constitutive acts, while the Council for Advancement and Oversight of the Audit put efforts to assist ICARM in commencing the functioning, not adhering to Article 26 of the Law remained suppressed, and the offenders were unsanctioned.

First transparency reports were published in the course of 2008, and they covered the operations of audit firms in 2007. Number of submitted reports can lead to the conclusion that situation evidently improved in 2008 and, 17 out of 24 audit firms published their annual transparency reports, while the remaining 7 audit firms did not adhere to this legal requirement. In parallel to adhering to the legal requirements, in 2009, transparency reports are published, covering the operations in 2008. In 2009, 21 out of the total of 24 audit firms published the transparency report within the deadline stipulated by law. Submitted transparency reports will be observed in more details in this paper.

Initial reading of the transparency reports imposed the impression of lack of experience of the audit firms in preparing and presenting such type of reports. Certain audit firms, especially the local ones, briefly focused in the reports on several key information (such as, the legal structure and ownership, description of the governance structure and part of the financial information), without covering the other segments of the report (such as, the internal control, continuous professional development, presentation of list of clients and realized turnover by categories of services defined in the Law). Unlike them, other audit firms, especially the Big Four, presented more detailed information on the internal system on internal quality control of the firm, attached list of entities, however, they did not make precise distinction of the realized turnover pursuant to the requirements in the Law. Such approach is logical if one takes into account that the Big Four operate according to the globally accepted audit methodology. It means a developed, detailed and rigorous internal control

2707

system. What is immanent for the Big Four is carrying out control through every-day controlling of the operations on the basis of hierarchy-pyramidal system, from the lowest to the highest management level. In addition, there are periodic internal controls according to specially designed methodology of the audit firm. Offices of the Big Four in the Republic of Macedonia are subjected to detailed review once a year, carried out by another firm member of the European audit firm, according to specially designed control methodology and sophisticated and specially designed control software.

Such inconsistent approach regarding the form and the contents of the transparency reports burdens the comparison of data presented in certain segments and the carrying out of more detailed research. However, despite such limitations, presented transparency reports provide realistic picture on the developments in the audit profession in the Republic of Macedonia.

The paper analyses the data presented in the following segments in the annual transparency reports: (1) description of the legal structure and ownership; (2) description of the professional network and the legal and structural arrangements in the network they belong to; (3) description of the internal quality control system of the audit firm or the statutory auditor – sole proprietor and a statement by the administrative or the management body on the effectiveness of its functioning; (4) list of entities being audited during the preceding year; (5) statement on the policy followed by the audit firm or the statutory auditor – sole proprietor concerning the continuing education of the statutory auditors and (6) financial information on the total turnover realized on the basis of audit and on the basis of other fees, broken down by four

categories of audit services, additional services for quality assurance, tax advisory service and other non-audit services. (Audit Law, Official gazette of the RM, no. 79. p. 99, 21 September 2005)

Table 1 gives a review on the legal structure and ownership of all audit firms, ICARM members, which submitted transparency reports in 2008. Pursuant to Article 17 of the Audit Law, audit, as a service, can be performed by an audit firm established as company and statutory auditor – sole proprietor, having obtained working license therefore. Audit firm is issued working license to perform audit operations if it fulfils the following requirements:

1) having employed at least two statutory auditors and

2) majority voting shares in the audit firm owned by the statutory auditors.

On the basis of the presented legal structure and ownership in the transparency reports, one can conclude that all audit firms meet the legal requirement to obtain working license in the field of auditing.

Table 1 Legal Structure and Ownership of Audit Firms

	Name of audit firm	Legal structure and ownership of audit firms
1.	Ernst&Young Statutory Auditors, Skopje	Limited liability company, 49% owned by Ernst&Young Southeast Europe Limited, headquartered in Nicosia, Republic of Cyprus, and 51% owned by local statutory auditors.
2.	PricewaterhouseCoopers DOOEL Skopje	Limited liability company established by two physical persons – statutory auditors, owning 51%, and PricewaterhouseCoopers DOOEL Skopje, owning 49% of the firm.
3.	KPMG MACEDONIA DOO Skopje	Limited liability company, fully owned by three physical persons – statutory auditors.
4.	Deloitte DOOEL Skopje	Limited liability company owned by Deloitte Central Europe Holdings Limited, headquartered in Nicosia, Republic of Cyprus.
5.	Grant Thornton DOO Skopje	Limited liability company established by two physical persons – statutory auditors, owning 75%, and one legal entity in private ownership, owning 25% of the firm.
6.	Macedonian Audit Center, Skopje	Limited liability company, fully owned by three persons – statutory auditors.
7.	Dimitrov Audit, Skopje	Limited liability company, fully owned by two physical persons – statutory auditors.
8.	B&Lj, Boro and Ljupco, DOO Skopje	Limited liability company, fully owned by two physical persons – statutory auditors.
9.	Trio-Consulting DOO Gevgelija	Limited liability company, fully owned by two physical persons – statutory auditors.
10.	Rafajlovski Audit DOO Skopje	Limited liability company owned by one physical person - statutory auditor and Rafajlovski Consulting DOO consulting company.
11.	Censum DOOEL Skopje	Limited liability company, owned by one physical person – statutory auditors.
12.	Pelagoniska Audit Firm DOOEL Prilep	Limited liability company, owned by one physical person – statutory auditors.
13.	Kojzakliev-Pavleska AD Skopje	Limited liability company, fully owned by two physical persons – statutory auditors.
14.	Kni-Prokom Prilep	Limited liability company, owned by one physical person – statutory auditor.
15.	Baker Tilly Macedonia DOO Skopje	Limited liability company, fully owned by two physical persons – statutory auditors.
16.	Primeko Audit DOOEL Skopje	Limited liability company, owned by one physical person – statutory auditor.
17.	Revizions DOO Skopje	Limited liability company, fully owned by two physical persons – statutory auditors.
18.	Audit IAS Skopje	Limited liability company, fully owned by two physical persons – statutory auditors.
19.	Efect Plus A udit Firm, Skopje	Limited liability company, fully owned by three physical persons – statutory auditors.
20.	Audit and Consulting firm - ERC - Skopje	Limited liability company, owned by one physical person and one legal entity.
21.	ProAudit Audit Firm, Kumanovo	Limited liability company, fully owned by two physical persons – statutory auditors.

Source: Transparency reports of the auditing firms, 2008

Table 2 shows which professional network the audit firm belongs to

and the legal and the structural arrangements therefrom.

Table 2 Description of the professional network which the audit firm belongs to

	Name of audit firm	Description of the professional network which the audit firm belongs to
1.	Ernst&Young Statutory Auditors, Skopje	The firm is part of Ernst&Young Southeast Europe Limited network, headquartered in Nicosia, Republic of Cyprus.
2.	PricewaterhouseCoopers DOOEL Skopje	The firm is member of PricewaterhouseCoopers.
3.	KPMG MACEDONIA DOO Skopje	KPMG Macedonia DOO Skopje is competent and respectively licenced firm, member of the international network of KPMG companies.
4.	Deloitte DOOEL Skopje	The firm is part of Deloitte Central Europe Group and, in its operations, it utilizes the available human and know-how resources from all countries in the region.
5.	Grant Thornton DOO Skopje	The firm is member of Grant Thornton International. In its operations, it acts independently and in cooperation with other firms – members of Grant Thornton International. It has offices in Skopje, Republic of Macedonia, and in Pristina, Kosovo.
6.	Macedonian Audit Center, Skopje	The firm acts as local audit firm on the territory of the Republic of Macedonia, and does not belong to any professional network.
7.	Dimitrov Audit, Skopje	The firm acts as local audit firm and is correspondent member of the international group of independent audit firms DFK International from London.
8.	B&Lj, Boro and Ljupco, DOO Skopje	The firm acts as local audit firm on the territory of the Republic of Macedonia, and does not belong to any international professional network.
9.	Trio-Consulting DOO Gevgelija	The firm acts as local audit firm on the territory of the R. of Macedonia, and does not belong to any broader local, regional or global professional network.
10.	Rafajlovski Audit DOO Skopje	The firm acts as local audit firm on the territory of the Republic of Macedonia, and does not belong to any professional network.
11.	Censum DOOEL Skopje	The firm acts as local audit firm on the territory of the Republic of Macedonia.
12.	Pelagoniska Audit Firm DOOEL Prilep	The firm acts as local audit firm on the territory of the Republic of Macedonia.
13.	Kojzakliev-Pavleska AD Skopje	The firm acts as local audit firm on the territory of the Republic of Macedonia.
14.	Kni-Prokom Prilep	The firm acts as local audit firm on the territory of the R. of Macedonia.
15.	Baker Tilly Macedonia DOO Skopje	The firm is member of Baker Tilly International from London, England.
16.	Primeko Audit DOOEL Skopje	The firm acts as local audit firm on the territory of the Republic of Macedonia.
17.	Revizions DOO Skopje	The firm acts as local audit firm on the territory of the R. of Macedonia.
18.	Audit IAS Skopje	The firm acts as local audit firm on the territory of the R. of Macedonia.
19.	Efect Plus Audit Firm, Skopje	The firm acts as local audit firm on the territory of the Republic of Macedonia.
20.	Audit and Consulting firm - ERC - Skopje	The firm acts as local audit firm on the territory of the Republic of Macedonia.
21	ProAudit Audit Firm, Kumanovo	The firm acts as local audit firm on the territory of the Republic of Macedonia.

Source: Transparency reports of the auditing firms, 2008

There are differences in the extent of the information given about the network arrangements, with in some cases very little information on the structure of central Boards or committees and their functions. As shown in Table 2, the segment explaining the professional network which the audit firms belong to and the legal and the structural arrangement therefrom, the Big Four provide more detailed explanations, while the local audit firms just stress the fact that they act locally on the territory of the Republic of Macedonia. To the end of transparent reporting, it would be advisable for audit firms to pay more attention in future to the reporting on their organizational setup and the arrangements arising therefrom. In general we consider that the reports would be more transparent were there a fuller statement of the obligations and undertakings of the firm under the agreement for membership of the network.

Table 3 gives review of the internal quality control system of the audit firm or the statutory auditor – sole proprietor and a statement by the administrative or the management body on the effectiveness of its functioning.

Table 3. Description of the internal quality control system of the audit firm

	Name of audit firm	Description of the internal quality control system of the audit firm
1.	Ernst&Young Statutory Auditors, Skopje	Global audit methodology of Ernst&Young Skopje (ES/GAM) provides for effective and efficient delivery of high-quality and acknowledged services to clients worldwide. Ernst&Young Skopje applies efficient and effective internal control system, which fully meets international quality standards.
2.	PricewaterhouseCoopers DOOEL Skopje	On the basis of the quality control carried out by the network, it can be concluded that stipulated operating procedures were implemented.
3.	KPMG MACEDONIA DOO Skopje	The firm has developed, detailed and rigorous internal control system. Control is performed through everyday controlling of the operations on the basis of hierarchy-pyramidal system. There are periodic internal controls according to specially designed KMPG methodology. The firm is subjected to detailed control once a year, carried out by team of professionals – auditors, comprising other firms – members of KPMG, according to specially designed control methodology and sophisticated and specially designed control software.
4.	Deloitte DOOEL Skopje	Appointed professionals from Deloitte Central Europe visit different offices each year so as to perform internal control over the audits carried out. The firm has efficient and effective internal control system, which fully meets international quality control standards.
5.	Grant Thornton DOO Skopje	The firm supervises and evaluates its quality control system on ongoing basis, and it also includes internal control over selected completed arrangements. Quality control process also includes redular controls by Grant Thornton International.
6.	Macedonian Audit Center, Skopje	The firm has adopted policies and procedures pertaining to quality control over the operations pursuant to the Audit Law and ISA.
7.	Dimitrov Audit, Skopje	The firm has adopted policies and procedures pertaining to quality control system pursuant to the Audit Law and ISA.
8.	B&Lj, Boro and Ljupco, DOO Skopje	ISA 220 provisions are implemented for the establishment of quality control system.
9.	Trio-Consulting DOO Gevgelija	The firm has adopted policies and procedures pertaining to quality control over the operations pursuant to the Audit Law and ISA 220 and ISQC 1.
10.	Rafajlovski Audit DOO Skopje	The firm has adopted policies and procedures pertaining to quality control over the operations pursuant to the Audit Law and ISA 220.
11.	Censum DOOEL Skopje	The firm has developed internal software for auditing services, on the basis of which audits are planned, and it provides for quality control over the operations of the audit teams.
12.	Pelagoniska Audit Firm DOOEL Prilep	The firm has adopted policies and procedures pertaining to quality control system.
13.	Kojzakliev-Pavleska AD Skopje	Internal control system of the firm comprises of adhering to the stipulated procedures.
14.	Kni-Prokom Prilep	The firm has internal control system. Control is performed by the chief auditor by controlling and maintaining high level of integrity, professional standards and quality services by the auditor.
15.	Baker Tilly Macedonia DOO Skopje	The firm has adopted Rulebook on the Procedures for Audit Quality Control, prepared on the basis of guidelines on quality control policies adopted by Baker Tilly International.
16.	Primeko Audit DOOEL Skopje	Quality control system is established in accordance with ISQC 1.
17.	Revizions DOO Skopje	Provisions from the Audit Law and ISA 220 provisions are implemented for the establishment of quality control system.
18.	Audit IAS Skopje	ISA 220 provisions are implemented for the establishment of quality control system.
19.	Efect Plus Audit Firm, Skopje	The firm adheres to ISA 220 and ISQC 1 requirements regarding the quality control system.
20.	Audit and Consulting firm - ERC - Skopje	Internal quality control system is established through vertical control performed by statutory auditors as assistance in line with ISA.
21.	ProAudit Audit Firm, Kumanovo	ISQC 1 provisions are implemented for the establishment of quality control system.

Source: Transparency reports of the auditing firms, 2008

This is a key element within the reports. Comparison of information

from the segment pertaining to transparency reports, focused on internal quality control system of the audit firm, and the statement by the administrative or the management body on the effectiveness of its functioning, point out to a heterogenous approach in reporting. The Big Four, as well as the audit firms that are part of the international networks, describe in more details the internal quality control system by orderly positioning the key players in the established control system. Unlike them, there is clear perception at part of the local audit firms of what the internal control system is, but due to their lower personnel potential, it is more simplified. Therefore, the reports state that established and adopted policies and procedures on quality control system are fully harmonized with the international standards on auditing. Unfortunately there are audit firms that are not familiar with the concept of setting and functioning of internal quality control system. Such impression is acquired from reading the explanations on the manner of acting and functioning of the quality control system. However, despite such trends, these audit firms have concluded, at the end of the report, presenting this segment, that the system is well established and functioning efficiently. Such developments may be accepted as logical ones, should one take into account the fact that ICARM is in the initial stage of introducing the system of quality control in audit firms and statutory auditors. Certain aspects from the introduction of excellent quality control system are in promotion stage yet, so the expectations that transparency reports will contain more quality information in this segment are realistic. Again we consider that the fuller presentation provides the better model. Whilst the minimalist approach arguably meets the legal requirement, in our view it falls well short of meeting the spirit of transparency reporting.

Another quite important segment in the transparency report is the list of auditees at which audit firms performed audit arrangements. Due to the heterogenous composition of auditees (part of them are large-, and the other part are medium-sized enterprises), Table 4 presents the number of auditees in 2008 at which the audit firm performed an audit.

Table 4 Number of auditees in the preceding year

	Name of audit firm	Number of auditees in the preceding year
1.	Ernst&Young Statutory Auditors, Skopje	25
2.	PricewaterhouseCoopers DOOEL Skopje	28
3.	KPMG MACEDONIA DOO Skopje	43
4.	Deloitte DOOEL Skopje	33
5.	Grant Thornton DOO Skopje	30
6.	Macedonian Audit Center, Skopje	57
7.	Dimitrov Audit, Skopje	33
8.	B&Lj, Boro and Ljupco, DOO Skopje	41
9.	Trio-Consulting DOO Gevgelija	50 companies, 1 association of citizens and 5 projects at non-profitable organizations
10.	Rafajlovski Audit DOO Skopje	2 construction companies, 30 companies engaged in production, trading and services and 1 brokerage house
11.	Censum DOOEL Skopje	no data in the report
12.	Pelagoniska Audit Firm DOOEL Prilep	41
13.	Kojzakliev-Pavleska AD Skopje	6
14.	Kni-Prokom Prilep	15 companies, 5 public enterprises and 2 projects
15.	Baker Tilly Macedonia DOO Skopje	24 companies and 25 projects financed by financial institution and foreign donors
16.	Primeko Audit DOOEL Skopje	30 companies and non-profitable organizations
17.	Revizions DOO Skopje	10
18.	Audit IAS Skopje	12
19.	Efect Plus Audit Firm, Skopje	12
20.	Audit and Consulting firm - ERC - Skopje	29
21.	ProAudit Audit Firm, Kumanovo	31

Source: Transparency reports of the auditing firms, 2008

Audit firms apply different approach when demystifying the clients at which audit arrangements were implemented. Most of them provide detailed list of all auditees. Small portion of the audit firms use descriptive approach to indicate the auditees by summarizing them in certain categories (companies, non-profitable organizations, etc.). Only one audit firm has presented no list of auditees in the report. However, despite such approach, this segment in the report points out to a positive trend in disclosing information related to client's identity, which was considered as business secret in the past and were not subject to public debate. Regardless of the fact that reports on performed audit were subject to publishing pursuant to the first Audit Law from 1998, it is exceptionally difficult to relate the audit firms with the specific clients. Hence, how small audit firms, having limited personnel resources, manage to perform audits at large number of clients has always been an open issue. Finally, numerous users of audit reports can learn from this segment of the transparency report about the distribution of potential clients to be audited (pursuant to the Company Law, they are the large- and the medium-sized enterprises) between the audit firms and how much one participates in the division of the pie. These information are also a good signal for ICARM to activate its control mechanisms, should it detect discrepancy between the available personnel potential and the volume of realized arrangements at certain audit firms.

Table 5 presents the statements on the policy followed by the audit firm or the statutory auditor – sole proprietor concerning the continuing education of the statutory auditors.

Table 5 Policy followed by the audit firm concerning the continuing education of statutory auditors

	Name of audit firm	Policy followed by the audit firm concerning the continuing education of statutory auditors
1.	Ernst&Young Statutory Auditors, Skopje	Ernst&Young Skopje follows the global policy of Ernst&Young on continuing education of statutory auditors through their participation in trainings, permanent monitoring of the learning though Ernst&Young Intranet, as well as provision of financial asupport for educational purposes (taking professional exams – local and international, post-graduate studies, etc.)
2.	PricewaterhouseCoopers DOOEL Skopje	Employees attend training at least 40 hours a year within the continuing professional advancement, organized by ICARM.
3.	KPMG MACEDONIA DOO Skopje	The firm carries out constant and mandatory education of statutory auditors and of other personnel employed with the firm through attending specially organized educational workshops in the country and mainly abroad – minimum 5 business days (most often, more than 5 business days), various advancement courses on the basis of latest methodology and standards.
4.	Deloitte DOOEL Skopje	Deloitte DOOEL Skopje follows the global policy of Deloitte on continuing education of statutory auditors through their participation in trainings, permanent monitoring of the learning though Deloitte Intranet, as well as provision of financial asupport for educational purposes (taking professional exams, post-graduate studies, etc.)
5.	Grant Thornton DOO Skopje	Employees are obliged to participate in all trainings organized by Grant Thornton International. In addition, employees attend training at least 40 hours a year within the continuing professional advancement, organized by ICARM.
6.	Macedonian Audit Center, Skopje	Employees attend training at least 40 hours a year within the continuing professional advancement, organized by ICARM.
7.	Dimitrov Audit, Skopje	Employees attend training at least 40 hours a year within the continuing professional advancement, organized by ICARM.
8.	B&Lj, Boro and Ljupco, DOO Skopje	Employees attend training at least 40 hours a year, organized by ICARM.
9.	Trio-Consulting DOO Gevgelija	Employees attend training at least 40 hours a year within the continuing professional advancement, organized by ICARM.
10.	Rafajlovski Audit DOO Skopje	Employees attend training at least 40 hours a year within the continuing professional advancement, organized by ICARM.
11.	Censum DOOEL Skopje	The firm pays attention to following the current trends in the accounting and auditing, however, they have not indicated in the report which forms of continuing professional advancement they apply.
12.	Pelagoniska Audit Firm DOOEL Prilep	Employees attend training at least 40 hours a year within the continuing professional advancement, organized by ICARM, as well as seminars and trainings in the field of accounting and auditing.
13.	Kojzakliev-Pavleska AD Skopje	Employees attend training at least 40 hours a year, organized by ICARM.
14.	Kni-Prokom Prilep	The firm carries out continuing education of statutory auditors and of the other employees through attending professional educational lectures, trainings, workshops, etc.
15.	Baker Tilly Macedonia DOO Skopje	Employees attend training at least 40 hours a year, organized by ICARM, as well as seminars organized by Baker Tilly International from London.
16.	Primeko Audit DOOEL Skopje	Employees attend training at least 40 hours a year, organized by ICARM.
17.	Revizions DOO Skopje	Employees attend any type of education trainings (seminars, post-graduate studies, etc.) for the purpose of successful advancement in the field of accounting and auditing.
18.	Audit IAS Skopje	Employees attend training at least 40 hours a year, organized by ICARM.
19.	Efect Plus Audit Firm, Skopje	The firm has organized internal continuing education of the employees, while amendments to the legal regulations, standards on financial reporting and standards on auditing are observed through publications of the Official Gazette, IFAC and IASB.
20.	Audit and Consulting firm - ERC - Skopje	The firm carries out policy on education of auditors.
21.	ProAudit Audit Firm, Kumanovo	The firms carries out continuing education of staturoty auditors and of the other employees through attending seminars and courses in the field of accounting and auditing, as well as mandatory attending of all seminars, courses and trainings held as prior training so as to take the professional exam.

Source: Transparency reports of the auditing firms, 2008

Analysis of the presented information related to the continuing professional development of statutory auditors in the Republic of Macedonia

leads to the conclusion that, if compared to the other segments in the report, they are the least consistent. As pointed out above, the requirement for continuing professional development was introduced for the first time in the Republic of Macedonia with the Audit Law in 2005. In particular, pursuant to Article 21 of the Law, each statutory auditor is obliged to attend at least 40-hour training annually within the continuing professional advancement so as to upgrade the knowledge in the field of accounting and auditing, organized by ICARM.

Taking into account the fact that ICARM commenced realizing the program on continuing professional development in March 2009, information presented in the transparency report at most of the audit firms regarding the monitoring of training of statutory auditors within ICARM in the course of 2008 can be taken with a pinch of salt. Part of the audit firms, such as the Big Four, referred to education that is implemented at the level of the network which they belong to. Similarly, part of the local audit firms indicated that they organized training for their employees, and they strived to update their knowledge by involving the employees in seminars and post-graduate studies in the field of accounting and auditing. This information was not subject to verification by ICARM or the Council for Advancement and Oversight of the Audit.

Keeping in view the fact that paragraph 2, Article 21 of the Law envisages revoking of the statutory auditor certificate from statutory auditors who would not attend training for 40 hours annually, it is realistic to expect that ICARM and the Council would soon react in terms of permanent monitoring of

2718

the fulfillment of the requirement for continuing professional development by the ones engaged in this field.

Table 6 gives summary of all audit firms, ICARM members, which submitted transparency reports in 2009, specifying in more details the financial information on total turnover realized from audit and from other fees, divided into four categories of audit services, additional services for quality assurance, tax advisory services and other non-audit services in the course of 2008.

	Audit firm	Audit-related turnover	Quality assurance services	Tax advisory services	Other non-audit services	Total
	Table 6: Review of turnover realized on the basis of different services in audit firms in the Republic of Macedonia					
1	Ernst&Young Statutory Auditors, Skopje	508,175.74	128,922.00	0	82,082.68	719,180.42
2	PricewaterhouseCoopers DOOEL Skopje	669,426.05	0	0.00	0	669,426.05
3	KPMG MACEDONIA DOO Skopje	1,025,069.38	0	31,828.20	334,035.92	1,390,933.50
4	Deloitte DOOEL Skopje	927,078.57	0	24,625.30	193,324.34	1,145,028.21
5	Grant Thornton DOO Skopje	329,367.80	0	0	19,908.76	349,276.57
6	Macedonian Audit Center, Skopje	195,654.80	0	0	7,137.89	202,792.68
7	Dimitrov Audit, Skopje	300,945.72	0	131,435.77	4,321.48	436,702.98
8	B&Lj, Boro and Ljupco, DOO Skopje	130,406.50	0	0	21,674.80	152,081.30
9	Trio-Consulting DOO Gevgelija	162,444.70	0	2,813.01	31,314.59	196,572.29
10	Rafajlovski Audit DOO Skopje	98,552.85	0	0	48.78	98,601.63
11	Censum DOOEL Skopje	79,947.37	0	0	56,191.09	136,138.46
12	Pelagoniska Audit Firm DOOEL Prilep	83,712.36	0	0	6,407.07	90,119.43
13	Kojzakliev-Pavleska AD Skopje	8,487.54	0	0	0	8,487.54
14	Kni-Prokom Prilep	53,853.66	0	19,886.18	6,455.28	80,195.12
15	Baker Tilly Macedonia	73,951.22	0	0	3,853.66	77,804.88
16	Primeko Audit DOOEL Skopje	55,064.23	0	6,328.46	8,569.35	69,962.03
17	Revizions DOO Skopje	12,189.71	0	0	1,996.26	14,185.97
18	Audit IAS	14,341.46	0	0	390.24	14,731.71
19	Efect Plus Audit Firm	28,151.35	0	0	13,030.78	41,182.13
20	Audit and Consulting firm - ERC - Skopje	87,478.98	0	2,878.75	0	90,357.72
21	ProAudit Audit Firm, Kumanovo	48,422.76	0	0	0	48,422.76
	Total	**4,892,722.75**	**128,922.00**	**219,795.66**	**790,742.98**	**6,032,183.38**

Source: Transparency reports of the auditing firms, 2008

More detailed analysis of the data in the Table points out to the fact that, out of the total realized turnover from the wide range of services offered to the clients during 2008, the Big Four, together with Grant Thornton, accounted for 70.85%, while the other 16 local audit firms accounted for 29.15%. With respect to the turnover realized on the basis of the offered services, transparency reports show that turnover realized on the basis of carrying out

audit services was dominant at almost all audit firms. Individual share of audit firms in the total offered audit services and the turnover thus realized are shown in Table 7 below.

Table 7 Structural share of audit firms in other turnover realized on the basis of audit services

	Audit firm	Audit-related turnover	Percentage
1	Ernst&Young Statutory Auditors, Skopje	508,175.74	10.39%
2	PricewaterhouseCoopers DOOEL Skopje	669,426.05	13.68%
3	KPMG MACEDONIA DOO Skopje	1,025,069.38	20.95%
4	Deloitte DOOEL Skopje	927,078.57	18.95%
5	Grant Thornton DOO Skopje	329,367.80	6.73%
6	Macedonian Audit Center, Skopje	195,654.80	4.00%
7	Dimitrov Audit, Skopje	300,945.72	6.15%
8	B&Lj, Boro and Ljupco, DOO Skopje	130,406.50	2.67%
9	Trio-Consulting DOO Gevgelija	162,444.70	3.32%
10	Rafajlovski Audit DOO Skopje	98,552.85	2.01%
11	Censum DOOEL Skopje	79,947.37	1.63%
12	Pelagoniska Audit Firm DOOEL Prilep	83,712.36	1.71%
13	Kojzakliev-Pavleska AD Skopje	8,487.54	0.17%
14	Kni-Prokom Prilep	53,853.66	1.10%
15	Baker Tilly Macedonia	73,951.22	1.51%
16	Primeko Audit DOOEL Skopje	55,064.23	1.13%
17	Revizions DOO Skopje	12,189.71	0.25%
18	Audit IAS	14,341.46	0.29%
19	Efect Plus Audit Firm	28,151.35	0.58%
20	Audit and Consulting firm - ERC - Skopje	87,478.98	1.79%
21	ProAudit Audit Firm, Kumanovo	48,422.76	0.99%
	Total	**4,892,722.75**	**100.00%**

Source: Transparency reports of the auditing firms, 2008

Data from transparency reports speak of dominant share of the Big Four, together with Grant Thornton, of 70,07% in the total turnover in the Republic of Macedonia realized on the basis of audit. Share of KPMG MACEDONIA in the structure of realized turnover is evident, accounting for 20,95% compared to the other firms in the group of the Big Four. Such trend is partially a result of the requirement in the Banking Law as of June 2007 for

rotation of audit firms each five years. More specifically, Banking Law does not allow for the same audit firm to carry out audit at the same client, i.e. bank, continuously longer than five years. Due to this, arrangements of the Big Four in the financial sector were changed, resulting in losing large clients at part of these firms, and as a result, their turnover dropped on this basis.

Audit Law requires turnover the audit firm realized from quality assurance services to be separately presented in the transparency report. Taking into account the fact that audit market is still not developed in the Republic of Macedonia, as is the case in the EU Member States, small number of clients request quality assurance services, and when they request such services, the audit firms treat them as another type of services. Data in the transparency reports speak of such trends, and it was only Ernst&Young Statutory Auditors, Skopje that showed turnover on the basis of quality assurance services, while the other audit firms, including the rest of the Big Four, presented no turnover.

Another category of turnover from the transparency reports includes the turnover realized on the basis of tax advisory services. Data on the participation of the audit firms in the total turnover realized on this basis are presented in Table 8.

Table 8 Structural share of audit firms in other turnover realized on the basis of tax advisory services

	Audit firm	Tax advisory services	Percentage
1	*Ernst&Young Statutory Auditors, Skopje*	0	0.00%
2	*PricewaterhouseCoopers DOOEL Skopje*	0.00	0.00%
3	*KPMG MACEDONIA DOO Skopje*	31,828.20	14.48%
4	*Deloitte DOOEL Skopje*	24,625.30	11.20%
5	*Grant Thornton DOO Skopje*	0.00	0.00%
6	*Macedonian Audit Center, Skopje*	0.00	0.00%
7	*Dimitrov Audit, Skopje*	131,435.77	59.80%
8	*B&Lj, Boro and Ljupco, DOO Skopje*	0.00	0.00%
9	*Trio-Consulting DOO Gevgelija*	2,813.01	1.28%
10	*Rafajlovski Audit DOO Skopje*	0.00	0.00%
11	*Censum DOOEL Skopje*	0.00	0.00%
12	*Pelagoniska Audit Firm DOOEL Prilep*	0.00	0.00%
13	*Kojzakliev-Pavleska AD Skopje*	0.00	0.00%
14	*Kni-Prokom Prilep*	19,886.18	9.05%
15	*Baker Tilly Macedonia*	0.00	0.00%
16	*Primeko Audit DOOEL Skopje*	6,328.46	2.88%
17	*Revizions DOO Skopje*	0.00	0.00%
18	*Audit IAS*	0.00	0.00%
19	*Efect Plus Audit Firm*	0.00	0.00%
20	*Audit and Consulting firm - ERC - Skopje*	2,878.75	1.31%
21	*ProAudit Audit Firm, Kumanovo*	0.00	0.00%
	Total	**219,795.66**	**100.00%**

Source: Transparency reports of the auditing firms, 2008

Unlike audit services, where the Big Four had the dominant share in the structure of the turnover realized on the basis of audit services, their share in tax advisory services was 25.68%, out of which *KPMG MACEDONIA DOO Skopje* participated with 14,48% and *Deloitte DOOEL Skopje* with 11.20%. What is surprising is the leader position of Dimitrov Audit local audit firm, which accounted for 59.80% in the turnover realized on the basis of tax advisory services. Remaining 14.52% are distributed among the other 4 local audit firms.

Last category of turnover covers the other non-audit services and, according to the explanations in the transparency reports of the audit firms in the Republic of Macedonia, this category incorporates the turnover from accounting services and assessments. Review of structural share of audit firms in the Republic of Macedonia in the total turnover realized on the basis of other non-audit services is given in Table 9.

Table 9 Structural share of audit firms in other turnover realized on the basis of non-audit services

	Audit firm	Other non-audit services	Percentage
1	Ernst&Young Statutory Auditors, Skopje	82,082.68	10.38%
2	PricewaterhouseCoopers DOOEL Skopje	0.00	0.00%
3	KPMG MACEDONIA DOO Skopje	334,035.92	42.24%
4	Deloitte DOOEL Skopje	193,324.34	24.45%
5	Grant Thornton DOO Skopje	19,908.76	2.52%
6	Macedonian Audit Center, Skopje	7,137.89	0.90%
7	Dimitrov Audit, Skopje	4,321.48	0.55%
8	B&Lj, Boro and Ljupco, DOO Skopje	21,674.80	2.74%
9	Trio-Consulting DOO Gevgelija	31,314.59	3.96%
10	Rafajlovski Audit DOO Skopje	48.78	0.01%
11	Censum DOOEL Skopje	56,191.09	7.11%
12	Pelagoniska Audit Firm DOOEL Prilep	6,407.07	0.81%
13	Kojzakliev-Pavleska AD Skopje	0.00	0.00%
14	Kni-Prokom Prilep	6,455.28	0.82%
15	Baker Tilly Macedonia	3,853.66	0.49%
16	Primeko Audit DOOEL Skopje	8,569.35	1.08%
17	Revizions DOO Skopje	1,996.26	0.25%
18	Audit IAS	390.24	0.05%
19	Efect Plus Audit Firm	13,030.78	1.65%
20	Audit and Consulting firm - ERC - Skopje	0.00	0.00%
21	ProAudit Audit Firm, Kumanovo	0.00	0.00%
	Total	**790,742.98**	**100.00%**

Source: Transparency reports of the auditing firms, 2008

Information on the participation of certain audit firms in the total realized turnover from non-audit services, obtained from the data in the transparency reports, is slightly different from the previously analyzed services. Despite the indisputably high share of the Big Four, together with Grant Thornton, of 79,59% in the total realized turnover from non-audit services and the significantly low share of the local audit firms of 20,41%, dispersion of turnover between the Big Four points out to the leader position of KPMG Macedonia, with dominant 42,24% in the total realized turnover. What is interesting is the information that PriceWaterhouseCoopers showed no turnover from non-audit services, while Deloitte DOOEL Skopje showed relatively high share of 24,45%.

Researching the data in the transparency reports is a challenge, however it also imposes certain limitations. Due to the absence of an established practice to regularly publish the transparency reports in at least one mass media or on audit firms' websites, we were compelled to ask for some of the reports directly from ICARM. Processing the inconsistently presented data also imposed serious limitations. At part of the audit firms, selecting the realized turnover on the basis of realized service in the transparency report did not correspond to the requirements in the Audit Law. This certainly required, when processing the data, additional grouping so as to realistically include all the turnover the audit firms in the Republic of Macedonia realized on the basis of the four types of services. Finally, the absence of comparative indicators from the reports from the previous years limited the research and made it poorer in terms of monitoring the dynamics of the

development of certain audit firms and their participation in the audit market in the Republic of Macedonia.

Finally, relatively short history of presenting the transparency reports, which commenced in 2008, limits the research and makes it poorer in terms of monitoring the dynamics of the development of certain audit firms and their participation in the audit services market in the Republic of Macedonia.

Benefits the transparency reports offer to the users of audit firms' services

We believe that transparency reports are an important mechanism for auditors of public interest entities to communicate to interested parties information about themselves, particularly their approach to audit quality.

However, regardless of the numerous limitations we faced when obtaining the transparency reports from the audit firms and analyzing the presented data, observations we made gave us the real picture of the trends on the audit market in the Republic of Macedonia. After almost a decade from the adoption of the first Audit Law and after 3 years of the adoption of the new Audit Law, which promoted the building of the audit profession with attributes immanent for the developed economies, the Big Four have played the dominant role in creating the climate for development of the profession. They were, are and, we expect, they will be generators of changes in the audit profession in the Republic of Macedonia. In parallel to them, several local audit

firms (Macedonian Audit Center, Dimitrov Audit, B&Lj, Boro and Ljupco, Trio-Consulting etc.), by showing high professionalism in their operations, gained their position on the audit market. Such trends for participation of the audit firms in the audit market could be foreseen even prior to obtaining the initial information from the presented transparency reports. However, as said at the beginning, in conditions of absence of strong professional association of chartered auditors, establishment of the audit profession in the accounting infrastructure, establishment of audit firms and their struggle to win the market and the clients was accompanied with a certain amount of mystery. Issue of which audit firm works at which client and the fee for the offered service was speculated. Such atmosphere protected the audit firms and made them untouchable. Adjusting the new Audit Law to the revised Eighth Company Law Directive opened the issue of transparency in the operations of the audit firms and touched the most sensitive information. Resistance to such requirement was shown by refraining from presenting the 2007 transparency reports by most of the audit firms in the Republic of Macedonia.

Different perception of the requirement to present sensitive information from the operations of the audit firms in the transparency report is partially overcome, following their first presentation for 2007. Legal requirement for the audit firms to offer, through the report, transparent information on themselves provides for (1) their better presentation in front of the potential users of their services; (2) better insight for those purchasing the service in the quality of the products offered through the statements for the internal control system of the audit firm, meeting the obligation for continuous professional development of

the employees, respecting the requirement for independence in realizing the arrangement, etc. All in all, presenting data from the transparency report should provide for a positive input of the audit quality and it can help in promoting sounder competition on the audit market.

Presenting the transparency report might, for part of the smaller audit firms, be legal obligation that is time consuming, that incurs costs which in a given situation of clients can be hardly valorized through winning new clients and winning better position on the audit market.

After almost a two years of presenting the first transparency reports, it is extremely difficult to measure the benefits arising from the legal requirement to publicly present the data for themselves and their policies and processes. However, it is quite certain that by developing the audit market in the Republic of Macedonia in the coming years, audit firms will start feeling the benefits form their transparent presentation in front of the clients.

Conclusion

Strategic commitment of all Governments of the Republic of Macedonia since its independence till today is approximation and integration in the EU. Audit profession was, still is and, it is quite certain, will be part of the strategies for faster integration in the EU. New Audit Law was adopted in the spirit of such commitments. Audit profession was waiting for this Law for eight years. It was not just a mere coincidence that, during its preparation, then proposed Eighth Company Law Directive was consulted. Striving for approximating the national audit profession to the global professional elite, new Audit Law is harmonized with the said Directive in all key segments. To that end,

requirement for presenting the annual transparency report by the audit firms in Macedonia was introduced in 2007 for the operations carried out in 2006. However, despite such defined legal requirement, public in the Republic of Macedonia saw the first transparency reports in 2008. Information presented in the reports aroused huge interest at us and stimulated us to carry out initial research so as to give a picture of the trends on the audit market in the Republic of Macedonia in 2007. On the basis of comparison of data from the transparency reports of the audit firms we came to a conclusion that the Big Four, together with Grant Thornton, still held the dominant share on the audit market in the Republic of Macedonia. Local audit firms had just a small portion of the audit market to win. However, this should not discourage the local audit firms. On the contrary, they should use the presentation of transparency report as a possibility to promote the wide range of services to the potential clients.

By presenting the 2007 and 2008 transparency reports, the first barrier is surmounted, and time will tell whether transparent disclosure of most sensitive information from the operations of the audit firms will bring more benefits to them or just more obligations and costs to meet the legal requirements.

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TRIPLE ENTRY ACCOUNTING AND ITS METAPHORS REVISITED

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Abstract

This paper develops Yuji Ijiri's model of triple entry accounting, and exemplifies it by means of hypothetical accounting statements of wealth, momentum and force. It argues such a framework holds the promise of reconciling accounting valuations with stock market ones, thereby resolving several of the most persistent and intractable issues in financial accounting. .

Introduction

Differential triple entry accounting was formulated in 3 papers (Ijiri 1982, 1986 and 1987). The purpose of triple entry accounting is to deepen the explanation of performance provided by accounts. In particular, the new third level of account, the "trebit", seeks to explain the income and cost changes in a period by bringing in their underlying economic and managerial causes and naming them "forces".

There were two metaphors at the heart of Ijiri's proposals, one methodological, the other substantive. The methodological one was calculus, and the methods of triple entry were to be seen as the elements of a 'calculus of accounting' (Ijiri 1982 p. 31 and 1987 p. 33). The substantive metaphor was Newtonian mechanics in which a particle's position in space is a result of its position at the start of a time period and its velocity. The velocity in its turn is a result of the acceleration/deceleration which is imparted by some force. Given an algebraic expression of a particle's position, the derivative of that expression gives its velocity and the second derivative thereof gives its

acceleration. Position in mechanics is mapped to wealth in accounting, velocity to income and acceleration to what Ijiri terms income momentum. Income momentum is expressed as a rate of income per period, such as $8 per month ($8/mo for short) attributable to, say, a bank deposit account. (Ijiri 1982).

Just as income statements account for inter-temporal changes in wealth, so 'action' statements would account for changes in income. Momentum statements are explained in, and analyzed by, impulse statements which attribute sources to the momenta. The derivative of impulse expressions are force expressions, and their integrals are action expressions. Action statements explain income statements, so that a month's income is divided in the action statement between its various historical causes such as owners' contributions, production management, sales management, etc. The period of an action statement is expressed as 'current month *over* previous month', to highlight momentum changes occurring in the current month. (Ijiri 1987).

The momentum statement is presented *'as of* the current month and expresses the current income types such as rent, interest or sales: so many $/mo, dollars per month. The impulse statement is presented 'for the current month' and divides momenta in just the same way: the action statement divides Income, by attribution to historical source. The impulse statement, however, counts in $/mo whereas the action statement counts in $, since actions explain incomes whereas impules explain momenta. Momenta do not of themselves *explain* income, but simply *measure* the rate of change of income. (Ijiri 1987).

Summarising the above in a calculus framework, the fundamental

expression is the position statement. The first derivative is the momentum statement. The second derivative is the force statement. The anti-derivative of the force statement is the impulse statement, itself the derivative of the income statement (and its own anti-derivative is the action statement). (Ijiri 1986)

Momentum, like acceleration in mechanics, is rarely constant, but is subject to an internally sourced decay rate and an externally soured friction rate. The present value of a force (source) of income creating an 'acceleration' or income of X per year per year subject to a decay rate of r is $X/[(r+u)(r-v)]$. For example, a force accelerating income by $2 a year every year' in perpetuity subject to an annual decay of 40, annual friction of 30%, and discounted at 10%. per year has a present value of $2/[(.1+.3)(.1+.4)]=$10$. Were there no decay or friction, the force would have a PV of its PE^2xX, namely $2xlOxl0=$200 assuming $1/PE$ to equal discount rate. Acceleration of income, however, does not equate to Ijiri's income momentum, but rather to his measure of 'force'. Momentum is measured in dollars per period, acceleration, in dollars per period squared. *Momentum is thus measured as if it were comparable to velocity.* Thus, the momentum statement and the income statement both relate directly to the wealth position statement, the former being the explanation or account of position, the latter being the instantaneous rate of change of position. The relation between the six statements is clarified in the diagram (from page 749 of Ijiri 1986) which is reproduced below.

Level of Accounting	Debit	Credit	Trebit
Force-single entry in $/mo^2$			Force
Momentum-double entry in $/mo		Momentum	Impulse
Wealth-triple entry in $	Wealth	Income	Action

Statement Type	*Wealth*	*Momentum*	*Force*

Key to relationship between statements

Derivative - higher being rate of change of lower

Integral or anti-derivative relationship – the reverse of the above

Explicatory - right explains left

Triple entry occurs at the wealth level, accounted for in ordinary $, Euros, RMB etc. such that every entry in the ledgers affects not only wealth (assets and external liabilities) and/or income (any fund flow affecting proprietors' funds), but also can affect 'action' whose individual components are particular 'forces' exemplified by Ijiri (1986) by new product costs and by margin, volume and efficiency variances attributable to existing products. To conventional debit and credit, triple entry adds 'trebit' to an action ledger comprising force accounts expressed in the same currency as conventional ledgers. Triple entry can stop here and not involve the new superstructure.

However, momentum and force accounting create a kind of internal control superstructure on the wealth, income and action level of accounting. Momentum accounting is done by double entry in $ per month ($/Mo) or per any more appropriate period, and is done across momentum ledgers (income or costs per month) and impulse ledgers (forces such as volume variance). Force accounting is done by single entry in $ per month per month ($/mo^2). The two higher levels control the wealth-income.-action level by a kind of calculus reconciliation, the higher being derivatives of appropriate ledgers of the lower.

The statements in Ijiri (1986) are reproduced below by way of clarification.

Wealth Statement

Cash	108
Receivables	200
Inventory	345
Less Payables	(120)
Net Wealth	**533**

Momentum Statement

MOMENTUM		INCOME	
(ending balance)		(impact on wealth)	
	$ / mo		$
Sales	150		290
Cost of Sales	(78)		(150)
Operating Expense	(36)		(74)
Tax	(18)		(33)
Net Momentum	**18**	Net Income	33
		Opening Wealth	500
		Closing Wealth	**533**

Force Statement

FORCE	IMPLUSE	ACTION
	(impact on momentum)	(impact on wealth)

	$ / mo^2	$ /mo		$
New Product	2	6		10
Margin Variance	(3)	(2)		(1)
Volume Variance	2	3		4
Efficiency Variance	2	1		--
Net Force	3	Net Impulse 8	Net Action	13
		Op'g Mmtm 10	Momentum	20
		Cl'g Mmtm 18	Net Income	33
			Op'g Wealth	500
			Cl'g wealth	533

Since the above are for a two month period, the action figures can be found by doubling the impulse figures and subtracting therefrom the force figures on each row.

Ijiri erected a formidable system of accountability in his triple entry model. When first published in 1982, his model attracted only a brief and not very resonant public response. This may be partly due to the novelty of the terms 'force', 'impulse', 'momentum' and 'action'. In the next section the uses of these terms in mechanics are examined to see if they represent the most appropriate borrowings to achieve the explicatory power and systemic logic that Ijiri intended, Ijiri (1986) sounds two cautions about such an exercise. On the one hand (Ijiri 1986, p, 748, footnote 10), 'Concepts and relationships among them in an original field must of course fit in nicely in the applied field; but it is also nice if the concepts and relationships are not inconsistent with their common sense interpretations', On the other hand (loc cit, footnote 11, 'The analogy with Newtonian mechanics should, however, be pursued only to obtain

valuable insights into how the triple entry book-keeping framework should be developed. A wholesale translation without regard to its applicability to accounting is dangerous, since, after all, physics and accounting are two different field of endeavor', The first quotation supports the concepts of force and momentum, the second quotation defends the concepts of impulse against future pedantic criticism.

A Review of Mechanics

Using the book used by Ijiri (French 1971) and two other standard texts (Hannah and Stephens 1984 and Ryder and Bennett 1975), the terms borrowed by Ijiri were investigated to see if the borrowings from Newtonian mechanics were optimal on the criteria cited by Ijiri in footnote 10 of his 1986 article.

First, it was noted that in mechanics the distinction between scalars (which have magnitude but not direction) and vectors (which have both magnitude and direction) is fundamental to the science. Scalars can be manipulated algebraically whereas vectors require geometrical analysis. Time, mass, speed and energy exemplify scalars whereas force, velocity and acceleration are vectors. Since momentum is a function of mass times velocity and impulse is the gain in momentum over a period, it can be seen that Ijiri's key concepts are vectors not scalars. Vectors can be resolved into *X* and *Y,* two dimensional, or *X Y* and Z, three dimensional, co-ordinates of position. In other words, if vectors are to be imported into accounting, an equivalent of length, breadth and possibly height/depth must be found. If, however, direction is not viewed as important in accounting, then scalars will be the appropriate values to import from mechanics. However, direction appears to be

fundamental to mechanics, not surprisingly in a science concerned with how engines move burdens from one position to another.

Force is that which tends to change the state of rest or uniform motion of a body. Newton's second law of motion holds that when a force acts on a body, the body accelerates at a rate proportional to the force AND in the same direction as the force. F=kma where *F* is force, *k a* proportional constant, *m* mass and *a* acceleration. Force is measured in newtons, one newton being the force needed to accelerate 1 kilogram by 1 meter per second per second. (N = I kg. m/s^2). Thus, to quantify force, we need to measure mass and acceleration, but to measure acceleration we need to measure rate of change of displacement, displacement involving both distance and direction. In mechanics, a special case of force is gravity. Just as F=kma, so W=mg where *W* is weight, *m* mass and *g* gravity. Accounting has no equivalent of weight, because, inter alia, it has no equivalent of the gravitational constant. If value of wealth is taken as the accounting equivalent of *mass* rather than of position, it is evident that constant purchasing power of money would be the equivalent of earth gravity. Unfortunately no such constancy is observed, so that even if value (mass) is in some theoretical sense constant, its recorded measurement (weight) varies with the purchasing power of money (gravity). Accounting value (mass) is like the mass of a comet or asteroid whose weight varies with every planet or planetoid it passes. It can be seen that absence of an accounting equivalent of the gravitational constant makes for instability, unreliability and lack of objectivity in accounting valuation. *It is the very constancy of historical cost that keeps it in place despite its generally agreed lack of relationship over time to any meaningful construct of value. However, as will be argued below, value is*

not well represented by mass.

Forces, momenta and accelerations, being derived measures concerned with rates of change, are true only for an infinitesimal instant of time. Force only needs to be applied once and sharply to cause acceleration. To measure effects of forces over a finite but extended time period, mechanics requires the additional concepts of work and of energy. Although impulse is defined as force times duration, impulse is not necessarily the most suitable concept of the prolonged effect of force to import into accounting.

Impulse concerns the continuing action of a force *F* over time *t* so that *FI=mat (t* for time, *m* for mass, *a* for acceleration) and this means that impulse also equals mass times the change in velocity over a given period. that is, change in momentum. In mechanics, mass is constant, velocity varies. In the Ijiri model, income momentum is measured in the same kind of terms ($ per month) as velocity (kilometers per hour) and lacks any equivalent of mechanics' inertial mass. The term momentum critically involves mass, the term income momentum does not. Given wealth as position, income as one dimensional 'displacement' of position, the more natural and more readily understood term for dollars per month would be 'income velocity.' This enables nonscientific accountants more easily to appreciate the import of the construct Ijiri has called momentum.

Momentum is conserved in mechanics when two bodies collide, so that the sum of their velocities of approach equals the sum of their velocities of separation-mass, of course, remaining constant through. Ijiri (1987) proposes the accounting equivalent of conservation through transactions, so that it is to be assumed that when an item is replaced or exchanged, the momentum of

the item leaving the firm is preserved in the item joining the firm and any extra income from the new item represents new, incremental momentum. The last part, however, could not occur if 'momentum' (really 'velocity') were preserved. Business transactions are only exceptionally comparable to physical collisions, so the momentum construct seems inappropriate to transactions. In mechanics, the principle of the conservation of momentum leads directly to the famous third law of motion which holds every mechanical action to give rise to an equal and opposite reaction. Double entry book-keeping could be held to echo this law, but triple entry book-keeping cannot do so. One cannot appreciate mechanical momentum without envisaging collision of bodies possessing mass. 'Income momentum' needs no such equivalent in the Ijiri model, and 'velocity' would have been sufficient to express the meaning desired. Impulse is associated with the change in momentum over time arising from the operation of a force over time. Again mass is 'involved as much as position - and the Ijiri model lacks a construct of mass. However, we are precluded from using 'acceleration' to explain velocity because in the Ijiri model, velocity (momentum in his view) has to be in the same units, $/mo, as the derivative of displacement (impulse as the derivative of income and explicator of momentum). Moreover, acceleration is measured in the same kind of units (Km per sec^2) as Ijiri's force ($/m02) but we cannot replace force with acceleration without destroying the explanatory power inherent in the concept of force. Force, in any case, affects acceleration, so force is the root explicator, while acceleration is merely a way of measuring its effect.

Force is measured in mechanics in newtons and a newton is 1 kg meter/ sec^2. So in order to get the most of the force concept we still need an

accounting equivalent of mass. Force in $\$/mo^2$, exemplified by various economic causes and expressed as variances, does not have such an equivalent unless cost/price/value are regarded as having both position and mass in the way that momentum and impulse do. That something necessarily needs an accounting equivalent of mass. We are accounting for changes in wealth and in income as the effects of explicit forces. Given that accounting wealth is a good match for mechanical position and that accounting income is a good match for mechanical displacement in one dimension, then to relate force to displacement we require something that does not bring in mass in the way that momentum and impulse do. That something also needs to have a meaning similar to its everyday meaning to fit the 'nicety' criteria of Ijiri's footnote 10. In mechanics, for there to be displacement in position, there has to be not impulse (force over time) but work. Work in mechanics is to displacement as impulse is to time. Thus work is force times distance just as impulse is force times time. Since our income displacement in $\$$ and income velocity in $\$/mo$, are direction insensitive (being one dimensional), it is relevant that work in mechanics is considered a scalar whereas impulse is a vector. As has been argued above, we should prefer scalars over vector when we borrow terms unless and until we can find meaningful accounting equivalents of length, breadth and height. Work is a scalar anti-derivative of force with respect to distance, and is a word more readily appreciated by non scientists than 'impulse'. It is recommended as the replacement construct for impulse in the Ijiri model, not only because of its familiarity and its direct relation to both force and distance (income) but also because of its fertility with regard to its associated mechanical concepts of energy and power. In the revised Ijiri model

proposed, work rate is measured in S/mo, despite its mechanical measurement in kg *mS/sec2* (=newton meters -joules = 1. 07 ergs).

Energy is the 'capacity' for doing work, mechanical energy being the capacity to do work which alters position and/or velocity and/or shape. Potential energy arises from position (as a result, usually, of gravity), kinetic energy from velocity and strain energy from deformity of a plastic or springy material. When work is done on a physical system like winding up a mechanical clock, the work can be stored as in a spring, and it is this stored work which is termed energy. However when energy is released some of the work escapes as heat or other loss; thus the first law of thermodynamics: work done equals gain of energy plus heat lost to surroundings. Energy is measured in joules, or kilowatt-hours or calories

With a clock spring, the work is put into the system quite rapidly relative to the rate of discharge, as the hands move round the clock face. With a bow and arrow the work is put in slowly, relative to the fast rate of discharge on firing. In both cases, work in equals work out plus system losses, but the rate of doing work is very different. The work rate in mechanics is power. Power is measured in watts, being the energy gain in newton meters per second (i.e. joules per second). A force of N newtons moving at V meters per second is NV watts. In French's words, (French 1971 p. 373), 'Power is a concept and a quantity of great practical importance, because the time it takes to perform a given amount of work may be a vital consideration'.

Before we try and house 'energy' and 'power' in accounting, we may usefully consider the concept of 'force'. Force in mechanics is an abstraction to name what imparts motion to bodies. This abstraction has three very concrete

2741

real world forms of existence: gravitational force (that causes weight), electromagnetic force (that underlies biological and chemical processes) and nuclear force (that holds atomic nuclei together). These forces are very sensitive to distance such that their strength is inversely proportional to the square of the distance between the two bodies affected, this being the inverse square law. Moreover, gravity principally governs the macrocosm of massive objects like stars and planets separated by vast distances; electromagnetism largely governs the 'mesocosm' of observable everyday phenomena and the nuclear forces govern the microcosm of subatomic particulate reactions. Gravity always attracts, electromagnetism attracts like to unlike charge and repels like from like charge while the nuclear force is attractive/cohesive down to 0.4 X 10-13 centimeters and repulsive at distances below that.

Now it is possible to go forward to the renaming of some of the Ijiri concepts. First, his 'income momentum' is really only a rate of income flow, comparable to velocity. 'Velocity' is not much clearer than 'momentum' to encapsulate the concept. It is proposed to use the word 'rate' to replace 'momentum'. Thus we will have 'rate accounting' a 'rate statement" and speak of an income rate, expense rate, etc. The word 'rate' carries no extraneous meaning to confuse the reader, unlike 'velocity' or 'momentum'.

Second, it is proposed to replace 'impulse' and 'action' with 'power' and 'work' respectively. Power is the rate of doing work and work is the effect on wealth, of force. The 'action' statement becomes the 'work' statement, the 'impulse' statement becomes the 'power' statement. Power accounts for rate; work accounts for income. These replacement terms are familiar to accounts readers and carry a meaning similar to their use both in physics and in

everyday life. Given that income has its mechanical equivalent in displacement or distance, it is appropriate to use work as the word that describes the ultimate effect of force on income.

Let us now attack the question of 'mass'. Everything that has mass has volume and it is proposed to suggest an accounting equivalent of volume. We already have income as one dimension of displacement - let us call it the equivalent of length. Income is of course measured in monetary units. Money has three principal functions: a metric for exchange value, a medium of exchange and a store of value. Length corresponds to the first quality, expressed in $ costs or revenues. Breadth corresponds to the second quality which incorporates notions both of liquidity and of foreign currency translation ease - we will call this dimension convertibility. Depth corresponds to the third quality, the store of value which is eroded by inflation-we will call this dimension stability. We now have x, y and z co-ordinates with which to pinpoint the value of a wealth position or income/cost transaction. Volume then approximates to 'real' value. Value arises from human responses and interactions and it is the human element that our discussion has so far lacked. If we treat a working person as our basic equivalent of mass, we can interlink volume and mass through the act of evaluation itself.

Headcount becomes one gauge of corporate mass. The three forces of physics are all associated with mass. For small masses the nuclear force predominates and we may associate this with that which binds together small teams of people. Borrowings again from physics, let us call this 'charm' in its weak form and 'charisma' in its strong form and let it signify small group cohesiveness and goal congruence. Gravity governs large mass interactions.

2743

A sufficiently massive star deflects light itself. A sufficiently massive corporation deflects credit, for it is a truism that credit flows towards larger firms and away from smaller ones. If firms are seen as planets, then a stock exchange quotation is comparable to graduation from asteroid to planetary status. Indeed we can use the dividing line between quoted and unquoted firms and the dividing line between firms with measurable financial 'gravity' and those without. Finance itself can be viewed as approximating gravity.

Finally, we need an accounting equivalent of electromagnetism-something that repels like from like and attracts like to unlike. That something will explain product, portfolio and personnel diversification, and also shed light on the 'chemistry' of business transactions. The concept 'risk' achieves the former and goes some way toward the latter if risk is seen as including risk of failing to maintain a required rate of return. Indeed, risk has so many manifestations that the risk spectrum is analogous to the electromagnetic spectrum. Every person has his/her own 'charge' or risk attitude. Every personality type has a given 'atomic mass', some are like hydrogen; others, in managerial positions, like gold or lead, and others at the centre of vast conglomerates are like uranium, in their effects on others. Each group has the character of its dominant elemental types, each firm has its own corporate culture.

Now, at last we can return to momentum and impulse and relate them to business matters, having translated mass into personality or at any rate personhood. Angular momentum is displayed by a body orbiting around a central body. It is a result of the interplay of centripetal (centre seeking) and centrifugal (centre fleeing) forces. This can be paralleled by a central headquarters seeking to control (exercise centripetal force) its subsidiaries and

branches who in turn seek to exercise their own initiative (centrifugal force). Angular momentum corresponds with the synergy resulting from the interplay.

If mass units are individuals, then momentum units are productivity units measured income/profit/value added etc. per period per head. Impulse correspondingly explains productivity changes by relation upwards to forces, explanation across-of productivity changes and realization downwards in work.

Energy as the capacity to do work relates to capacity to generate cash flow; potential energy being reflected in such external economies as location, kinetic energy in the present value of current investments and strain energy in receivables.

What has been proposed above is a complete conceptual framework centered on labor (mass), position (wealth) and force (finance, risk and charm). What is to be exemplified in the remainder of the paper, however, is confined to Ijiri's original model as renamed above. The rest of the paper seeks to explore the practical insights obtainable from applying the concepts of force, rate, power and work to the real world. .

Let us begin by considering the investment decision made by a private investor. There is a shortlist of 3 quoted companies all in the same industry, all with the same payout ratio and share price. Other data are shown in the tabulations below:

		Firm		
		Angular Inc	*Breadth Inc*	*Charm Inc*
1.	Earnings over net tangible assets %	5	10	IS
2.	Price earnings ratio	7	17	25
3.	Debt equity percentage (market values)	nil	35	15
4.	Standard deviation of earnings over 5 years as a percentage of current earnings	15	30	30
5.	Number of uncorrelated products	20	10	15
6.	Earnings rate of main product at year end	$ I5 k/mo	$ 10 k/mo	$ 20 k/mo
7.	Instantaneous interest rate at year end	Not applicable	9.3	12.2
8.	Share beta for current year (world market)	0.8	1.3	1.8
9.	Share beta for current month (world market)	0.76	1.24	1.85
10.	Monthly beta rate as at year end	+0.04/mo	-0.06/mo	+0.0 5/mo

11. Cash flow from operations			
In year	$ 3.2 m	$ 6.8 m	$ 9.1 m
12. Cash flow rate at year end	$ 270 k/mo $ 530k/mo		$ 815 k/mo
13. Change in cash flow rate year end to year end	+ $ 18 k/mo	- $ 54 k/mo	+$ 82 k/mo
14. Earnings enabled by borrowings {net)	nil	$ 3.8 m	$ 3.4 m
15. Instantaneous borrowing rate of return at year end	5.7%	8.7%	16.3%
16. Rate of return attributable to finance	0.3%	4.5%	82%
17. Rate of return attributable to risk	2.4%	2.0%	6.1%
18. Rate of return attributable to personality	3.0%	2.2%	2.0%
19. Earnings rate attributable to . personality	$ 26 k/mo	$ 32 k/mo	$ 45 k/mo
20. Increase in net worth in the year (% of last year end)	4.5%	12.2%	17.3%
21. Increase in net worth			

attributable finance	0.2%	6.9%	9.2%
22. Fixed asset weighted average depreciation rate per year	13.0%	11.0%	15.0%
23. Fixed asset replacement and addition rate per year	6.0%	3.0%	9.0%
24. Fixed asset rate of revaluation per year	5.0%	8.0%	12.0%
25. Working capital turnover rate at year end	5.4 p.a.	3.2 p.a.	8.2 p.a.

Conventional accounting will be able to product items 1, 3, 4, 11, 20 and 25. Stock market analysis is necessary for items 2, 8, 9. Item 5 is a note in the power statement as partial explanation of item 4. Item 6 is from that part of the power statement that analyses earnings rates segmentally. Item 7 is from the rate statement, as is item 15, both as notes. Item 12 is from the funds flow rate statement, item 13 from the funds flow power statement. Items 16, 17 and 18 are from percentage columns of the power statement, as are items 22, 23 and 24. Item 10 could be a note in the rate statement if the income statement itself has a note of item 8 or 9.

Essentially the incremental information content of the figures from the new statements is two fold. The rate statement information enables the investor to judge whether earnings are increasing or decreasing. The power and work statements attribute to rate and income data explanations in terms of forces. Applying the data to an investment judgment by way of fundamental analysis to the 3 hypothetical firms, we will look for symptoms of relative risk,

relative returns for risk and financial energy-the capacity to generate sustained cash flow.

Charm has the best ROCE (item I), has its earnings most highly valued in the market (item 2), partially at least reflecting its aggressive betas (items 8 and 9), its instability (item 4) and its financial leverage (items 3 and 7). The absolute value of its operations funds flow is greatest (item 11) as its flow rate (item 12) and flow rate of growth (item 13). Item 16 tells us that its rate of return from financial forces and sources exceeds its rate of return from risk (item 17). On the other hand its beta is increasing (item 10), its instantaneous year end interest rate on borrowings (item 7) is large enough relative to its instantaneous year end rate of return (item 15) to give Angular an advantage in this respect. However, Angular's avoidance of leverage is coupled with low contributions from financial forces (items 16 and 21) and high contributions from personality forces (item 18) which may correlate with high alpha. Angular and Breadth are making scarcely any net investment in the future (items 23 and 24 relative to item 22) compared to Charm. Charm's working capital is the most active (item 25), its product portfolio moderately spread (item 5) and its main product absolute earnings rate is the highest (item 6). All in all it seems Charm is the biggest firm and has the greatest financial gravity in consequence, but makes energetic use of it. It clearly has scope for greater product diversification and other actions that might reduce its world market beta. Also, its PE ratio is quite high and it may already be fully valued. Conversely, Angular's PE is very low and it may be undervalued. Angular seems right for the risk averse investor for the short to medium term, Charm for the longer term. Breadth is unsatisfactory as regards both business risk and financial risk

and at 17 its PE appears overvalued relative to those of the other two firms. All of this assumes market efficiency no better than semi strong form and sufficient imperfection for significant alpha to exist. Given these assumptions, the beta figures have only limited utility although they may well have significant announcement effects. The difficulties of accurate assessment of the separable contributions of the various forces is apparent but, to quote a maxim attributed to Keynes, 'It is better to be approximately right than to be precisely wrong'.

The rate and power statements would closely resemble the momentum and impulse statements (in Ijiri 1986) save the forces would be classified differently. The force statement, however, would be different both as a result of the difference in the view taken of what the basic forces are and because the present writer is not certain that accounts readers can easily handle $/moll as an accounting unit. Just as mechanics uses newtons (kg/mil) to measure force, it is proposed to honor the system founder in this case by naming force units ijiris (I) such that one ijiri is set equal to a thousand US$ per month. Accounts denominated in other currencies could either translate forces into ijiris as defined, or suitably define deutschmark ijiris, yen ijiris in ways their accounting bodies select. The force statement for Charm Inc. as at the year end is shown below : --

Charm Inc

Statement of Forces as at 31 December 1989

FINANCIAL FORCES-attributable to--

Equity issued up to 31 December 1988	7,512	
Equity issued during year	724	
Loans outstanding at 31 December 1988	10,306	
Borrowings in the year	nil	
	_____	
Total Gross Force	18,542	
Provision -for friction and decay (25%)	(4,636)	
	_____	
Net Financial Force		13,906

RISK HANDLING FORCES

Product market risk management	19,325	
Factor markets risk management	3,043	
Investment risk management	28,500	
Unclassified risks	3,500	
	_____	
Gross Force	54,368	
(Less) Acceleration in risk management		
cost rate in year	(5,214)	
Net Risk Management Force		49,154

_____

Total Net External Forces 63,060

FORCES OF PERSONALITY

Charisma--acceleration in emolument rate of

      parent company board 361

   --acceleration (deceleration) in investment

    in public relations rate 1,256

Charm --acceleration in emoluments of line

    management rate 4,953

   --acceleration in welfare and social

    expenditure rate 2,470

      _____

Gross Personality Forces 8,740

      _____

(Less)--Acceleration in cost rate of labor disputes (4,512)

  --Acceleration in cost rate arising from labor turnover (336)

   --Acceleration in teambuilding cost rate arising from increase

    in total time in meetings (9,512)

Total Personality Friction Force (14,360)

        Net Personality Force (5,620)

Total All Forces **57,440**

The force statement (not to be reconciled with the extracts earlier in the paper) tells us a great deal about. the corporate culture and strategy of Charm Inc. We can see that its major force is risk management as might seem natural for a large conglomerate but its investment risk management force far exceeds even the gross financial force, so we may wonder if it is concentrating too much on finance and facing diminishing returns in consequence. (The financial forces would be those earnings rates not directly attributable to diversification and stabilization policies.) The personality forces end up as a drag on the business, cost acceleration exceeding goodwill and synergy as measured by cost rates of proxies for direct measurement right down the line.

Summarizing the information provided by the new statements, we can compare corporate growth rates, the growth rates of any item of revenue, expense or funding, the growth rate changes in any item, the reasons for changes both in income and income/cost rates by reference to the forces responsible and we can identify the strength of the erosive forces faced by the firm. All of these enable the accounts user to analyze the firm dynamically and sensitizes all concerned to the timing of income/cost flows as well as to their magnitude. PE valuations will take account of income rates, expense rates and accelerations thereof, so that eventually the price rate ratio may be published in the financial press along with conventional PEs. The price rate ratio would be a power ratio, indicating the earnings rate per month, or per stock exchange account period, associated with the security. Derived betas would be possible matching excess security rate of return with market portfolio rate of return. Such a beta would render obsolete the one period restriction in applying the capital asset pricing model. The derivation and measurement of forces affecting wealth, earnings and rates would eventually enable the arbitrage pricing model to be applied with appropriate coefficients for Bn for a firm, where n is the various individually identifiable forces having regression significance in wealth, earnings and rate equations. Thus might a calculus of accounting be built.

Accounting is not only a micro exercise. Nations, as well as firms, keep accounts to assess such aggregates as national income, gross domestic product, money supply, fixed capital formation, balance of payments and inflation indices. There is already a rudimentary triple entry in national accounting through the identity i national income= national product=national expenditure, given appropriate definition of the terms involved. Yanovsky (1969 p. 16) terms the balance of payments accounts 'the oldest and first social accounting system, National accounting. is done on an accruals and not on cash flow basis. Again quoting Yanovsky (1969 p. 40), 'Since national accounts are planned to show the real production and actual sales of goods and services, the accepted principle is. therefore. to record transactions on a receivable-payable basis which makes production invariant to financial arrangements'.

Applying the triple entry model to national accounting yields equivalent statements to corporate accounting shown below :

Corporate Scheme	Debit	Credit	Trebit
Single entry			Force
Double entry		Rate	Power
Triple entry	Wealth	Income	Work

Rates of flow   Sectoral power

Debt/reserve   National Income   Input/Output

Balance of Payments

It is evident that a simple translation of the corporate scheme to the national one is not attempted. The corporate position statement is possible because auditing the existence and cost of corporate wealth is possible. It is only possible, or at any rate practical, on a national scale in a census fuller than the decennial exercises common in the advanced economies. Finding market replacement values of all households' fixed assets would require an investment in time

and effort unlikely to be acceptable, especially since the results may well be out of date before publication. Moreover, auditing the existence of assets owned overseas by domestic citizens is something even the Internal Revenue Services of the United States have not achieved. A full wealth statement is thus not a realistic proposition. However all countries account for their national working capital and for their national debt. A country's economy has a partial proxy for a company's share price through the conversion value of its currency, with the futures premium or discount being a partial indicator of confidence internationally. A partial wealth statement is thus feasible.

National income schedules correspond to the corporate income statement. Balance of payments accounts correspond, in certain aspects, to funds flow statements. (There are national funds flow statements in some countries but they adopt a sectoral approach.) The current account is analogous to corporate funds flow from operations, the capital account is comparable to long term sources and applications and the movement of reserves resembles the corporate change in the size and structure of working capital.

The national rate statement would have the same entries as the national income and balance of payments accounts but be produced monthly and disclose rates of monthly flow at the previous month end. Many countries, including most industrialized economies, already produce monthly digests of statistics slowing the flows through the economy for the previous month. These are already crude rate statements, and it is doubtful whether it is possible or significantly useful to ascertain instantaneous rates of macro-economic flows, subject as they are to repeated and differing acceleration and deceleration.

The force statement for an economy could not be drawn up along the lines suggested for companies. It would be impossible to discriminate and trace even approximately the different types of force; financial, risk management and personality. What might be more useful is to produce inter-sectoral flows in some detail to enable coefficients of productive transfer between sectors to be identified. Such an input-output statement is already produced in France as the

Tableau Economique. The power statement, in $/mo, would be a representation of monthly flows inter-sectorally. The force statement, in megaijiris, *MI* would be a schedule of the monthly accelerations of intersectoral flows, designed to show early signs of overheating or capacity underutilisation. A second form of analysis for the force, power and input-output statements could be by nationality of asset ownership, showing balance of payments effects. The purpose of this would be to raise the level *01* international debate over trade surpluses and protectionism. Currently that debate is based on traditional macroeconomic flows. The proposed analysis might well reveal a situation that although country A is in systematic deficit with country *J, A* owned firms in *J* ate massive net importers aad *J* owned firms in *A* are massive net exporters:-perhaps to a degree that offsets the macroeconomic deficit itself.

This paper has been an attempt to clarify the concepts of the Ijiri triple entry framework and to give some preliminary indications of potentially productive fields for its application Very considerable elaboration remains to be done. There is the effect of Fair Value Accounting at level One to consider. There is the practical objection that professional CPAs and corporate SFOs have expressed no wish to complicate their already complex accounting work still further. There is empirical work to be done exploring the usefulness of the new accounting with real user groups. There is the deeper theoretical question of whether a stable theory of accounting can be built independently of a stable theory of financial economics. There is not however, the So What question any longer. The Great Recession and the accompanying attack on the conceptual framework of accounting as currently practiced shows that the desire for a reliable general theory of accounting, robust against political pressures to suspend or distort the rules, remains as insistent as ever. Triple entry concepts have been shown to be relevant and helpful in moving accounting towards a general theory.

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VOLUNTARY DISCLOSURE ON R&D PROJECTS

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Abstract

In an information-based, fast-changing and technology intensive economy, research and development (R&D) are found to be an important contributor to firm's income and capital market value, particularly those operating in pharmaceutical or biotechnological industry. Due to the fact that financial accounting emphasises the aspect of information reliability and objectivity, financial accounting excludes the lion's share of R&D expenses from recognition. Therefore the users of financial statements will not be informed about the R&D activities in the balance sheet and the accounting information about a firm's R&D activity is generally of limited usefulness. As a consequence, a voluntary reporting model is needed which provides additional information on R&D outside the balance sheet. This paper shows how a R&D based innovation calculation in the notes could help to provide users of financial statements with information about firms' R&D activities.

Introduction

In an information-based, fast-changing and technology intensive economy, research and development (R&D) are becoming central to the competitive advantage of large number of firms, particularly those operating in pharmaceutical or biotechnological industry (Cañibano et al., 2000; Nixon, 1997). As a result, the discussion around the opportunity to capitalize intangible assets has always been very vigorous in the accounting literature (Lev and Sougiannis, 1996; Lev and Zarowin, 1999; Høegh-Krohn and Knivsflå, 2000; Litan and Wallison, 2000; Healy, Myers and Howe, 2002; Kothari, Laguerre and Leone, 2002). Even prominent accounting standard setters disagree about how to record internal R&D expenditures.[427]

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[427] For example in Japan, the accounting profession permits capitalisation of R&D expenditures, in United Kingdom the Auditing Standards Board insists on expensing of research but permits development expenditures and in the United States the Financial Accounting Standards Board mandates generally the full expensing of R&D expenditures.

However, International Accounting Standards deal with accounting for R&D in IAS 38. Its purpose is to prescribe the recognition and measurement criteria for intangible assets. IAS 38.54 requires research costs to be expensed as incurred because a firm can never demonstrate that expected future benefits from such outlays are probable. In contrast to the research phase, the development stage is further advanced. At this more advanced stage of the innovation process, an enterprise is more likely to identify an intangible asset and to present its probable future economic benefits. Therefore, only those development costs that meet certain prudence-driven criteria (IAS 38.57) shall be recognised as an intangible asset.

Given the fact that intangibles resources are difficult to verify, and that the firm's management could use them to manage or manipulate reported earnings, IAS 38.71 permits only to capitalise the expenditure incurred from the date when the R&D project first meets the prudent-driven recognition criteria. Due to the fact that financial accounting emphasises the aspect of information reliability and objectivity, financial accounting excludes the lion's share of R&D expenses from recognition (Keitz, 1997; Høegh-Krohn and Knivsflå, 2000; Fülbier, Honold, and Klar, 2000; Healy, Myers and Howe, 2002; Schreiber, 2005; Lutz-Ingold, 2005). Therefore the users of financial statements will not be informed about the R&D activities in the balance sheet and the accounting information about a firm's R&D activity is generally of limited usefulness. As a consequence, a voluntary reporting model is needed which provides additional information on R&D outside the balance sheet.

This paper shows how a R&D based innovation calculation in the notes could help to provide users of financial statements with information about firms' R&D activities. Therefore, a short overview of the R&D process is given in chapter two. Chapter three explains the structure of the innovation calculation and afterwards chapter four considers whether the information of the innovation calculation meets the principles of decision usefulness. The paper ends with a short conclusion.

The research and development process

The innovation calculation is explained by examples of R&D-projects in the pharmaceutical industry. There are many reasons for choosing the pharmaceutical industry as an example for displaying the innovation calculation. The most important one is that in the pharmaceutical industry extended R&D-activities precede every new product launch (Fülbier/Honold/Klar, 2000). Therefore, in the pharmaceutical industry R&D is found to be an important participant to firms` productivity and capital market value (Lev, 2001).

In the pharmaceutical industry R&D-projects pass through different predetermined phases (Schäfer/Schässburger, 2001). At first the cause-effect relationships of a certain illness are generated by basic research. Directly connected to this is the search for a substance ("lead compound") which influences a clearly predefined illness-causing „target" in the desired way. In this pre-clinical stage the substance is firstly analysed outside of human organisms in animal models or with the help of other methods. Only when the results are promising in the terms of effectiveness and toxic side effects, projects will be taken to the next clinical phase after respective permissions. The clinical studies can be divided in three phases. In the first phase the substance is tested on humans. The substance's security and pharmacokinetics is determined by tests on 10 to 100 healthy persons. In the second phase, the dose optimum and the substance's effectiveness are identified with a group of 50 to 200 test persons. In the third phase the statistical identification of the substance's effectiveness and security as well as an examination of interdependencies with other medicaments takes place with a test group of 100 to 1000 patients. After the clinical studies are finalized, the official admission procedure starts in which the test results are assessed by an expert-commission.

Example of a R&D based Innovation calculation

Due to the fact that the balance sheet excludes the lion's share of R&D expenditures an enterprise should initially disclose in its notes when R&D activities were started. By doing so, the enterprise signals users of financial statements that a possible intangible asset might be created in subsequent periods, but at this early stage the uncertainty of the future economic benefits prohibits capitalisation.

Usually an intangible asset arises from internal R&D projects. With help of an innovation calculation firstly the arising of an intangible asset from R&D projects becomes transparent, and secondly the project-oriented view during the creation of these assets subsequently leads to an asset-oriented view of the balance sheet (Dawo, 2003). During the changeover from a project-oriented view to an asset-oriented view of the innovation calculation three different ways of accounting for project-related expenses have to be considered.

- If no asset has been created, no expenses have to be capitalised.
- If the research project creates an asset, its related expenses have to be capitalised. The amount to be capitalised is the sum of expenditure incurred from the date when the R&D project first meets the recognition criteria (IAS 38.71).
- Furthermore it is possible that during a research project newly extracted realisations can be advanced in another project (or in a different company). This is why the innovation calculation has to consider these transfers of those realisations by a further elimination of the related expenses. So each asset can be associated with its expenses during capitalisation. This requires respective rebookings between the single projects. Because of high costs, increasing risks and the temporary limited monopoly granted by patent protection, especially firms in the pharmaceutical industry are forced to complete there own R&D-projects by acquisition or licensing of foreign technologies and experiences.

In the following innovation calculation (Table 1) three of the companies' R&D-projects, divided into segments, are exemplarily listed.

Innovation calculation of R&D-projects	Segment analgesics		Segment remedies	Totals
	A	B	C	
Frames of the projects				
(1) Projects start	7/05	1/96	11/99	
(2) Project phase	**preclinical**	preclinical	preclinical	
	clinical phase 1	clinical phase 1	clinical phase 1	
	clinical phase 2	clinical phase 2	**clinical phase 2**	
	clinical phase 3	**clinical phase 3**	clinical phase 3	
	admission procedure	admission procedure	admission procedure	
(3) Expected project end	4/18	4/07	2/13	
(4) Planned overall costs of the R&D-project	12.400.000	42.000.000	36.000.000	
Development since project start				
(5) Accumulated expenses since project start	850.000 (760.000)	38.575.000 (35.575.000)	28.931.250 (26.681.250)	68.356.250
(6) + Accumulated addition from other projects	80.000 (65.000)	11.500.000 (11.500.000)	8.625.000 (8.475.000)	20.205.000
- from company-owned R&D-projects	57.000 (48.000)	7.000.000 (7.000.000)	5.250.000 (5.190.000)	12.307.000
- from external R&D- projects	23.000 (17.000)	4.500.000 (4.500.000)	3.375.000 (3.285.000)	7.898.000
(7) ./. Accumulated divestitures to other projects	30.000 (23.000)	6.000.000 (5.985.000)	4.500.000 (4.488.750)	10.530.000
- to company-owned R&D-projects	21.000 (16.000)	3.500.000 (3.491.000)	2.625.000 (2.618.250)	6.146.000
- to external R&D-projects	9.000 (7.000)	2.500.000 (2.494.000)	1.875.000 (1.870.500)	4.384.000
(8) ./. Accumulated capitalised assets	75.000 (72.000)	2.000.000 (1.915.000)	1.500.000 (1.436.250)	3.575.000
(9) = Sum of the project-related expenses since project start	**825.000 (730.000)**	**42.075.000 (39.175.000)**	**31.556.250 (29.381.250)**	**74.456.250**
Development in the regarded period				
(10) Expenses in that period	90.000 (120.000)	3.000.000 (5.700.000)	2.250.000 (4.200.000)	5.340.000
(11) + Additions from other projects in that period	15.000 (22.000)	0 (500.000)	150.000 (600.000)	165.000
- from company-owned R&D-projects	9.000 (12.000)	0 (420.000)	60.000 (380.000)	69.000
- from external R&D- projects	6.000 (10.000)	0 (80.000)	90.000 (220.000)	96.000
(12) ./. Divestitures to other projects in that period	7.000 (9.000)	15.000 (4.550.000)	11.250 (2.500.000)	33.250
- to company-owned R&D-projects	5.000 (5.000)	9.000 (2.575.000)	6.750 (1.575.000)	20.750
- to external R&D-projects	2.000 (4.000)	6.000 (1.975.000)	4.500 (925.000)	12.500
(13) ./. Capitalised assets in that period	3.000 (25.000)	85.000 (250.000)	63.750 (180.000)	151.750
(14) = Project-related expenses in that period	**95.000 (108.000)**	**2.900.000 (1.400.000)**	**2.175.000 (2.120.000)**	**5.170.000**

Table 1: Example of an Innovation Calculation of R&D-project

At first the frames of the respective R&D-projects are presented in the rows (1)-(4). In row (1) the start of the R&D-work is displayed and row (2) informs about the project's phase. The expected project end is shown in row (3). These frames are completed by the estimated overall project costs. As the total time of a pharmaceutical product development takes normally eight to twelve years (Koch, 2001) these frames represent first evidence of the project's prospect of success. For example if a project is still in the preclinical phase for many years and a big portion of the planned total costs have already been incurred a regular successful project completion becomes unlikely.

The project's frames are followed by an overall view which informs about the progress of a particular project since its start. Therefore, the actual innovation calculation starts in row (5) with the disclosure of the accumulated expenses which have been incurred since the projects start. In addition and for a better understanding, last year's values should be listed in brackets. Then the amount of all accumulated expenses for the addition of realisations from other projects is added in row (6). In return the project results which benefit from other projects or are depended on them should be considered. So the amount of all accumulated expenses for the reduction of realisations to other projects has to be subtracted in row (7). It should be stated whether these additions and reductions of knowledge transfer arose from company-owned or external projects. That is because as in case of external knowledge transfer there is already a sales effectivity of those expenditures. Furthermore the expenses from row (8), which already led to capitalised assets, also have to be subtracted. To increase the transparency of the intangible assets creation, the capitalised amounts have to be related to the financial categories of intangible assets. So the report's receiver gets to know in which scale the respective project contributed to the creation of the different categories of intangible assets. As a result, the sum of the project-oriented expenses since the project's start appears in row (9). Row (9) is the initial point for further project-related evaluations. Combined with row (2), a first evaluation of the R&D project's productivity is indicated. In combination with row (4) the reader gets to know how much of the total planned costs are yet expended. Compared with the already elapsed time, a first target-performance-comparison can be deduced. Efficiency is declared by a comparison of row (8) and (9).

Following the overall view, the rows (10) to (14) provide information about the actual progress in the reporting period which shows the difference between actual and last year's values. The current expenses of the respective project also have to be corrected in line with the total period calculation. This focuses on the amounts for realisations from other projects and knowledge transfers to other projects respectively as well as all the amounts that lead from a particular project to an intangible asset in the period under consideration.

Assessment of decision usefulness

Finally, it has to be checked whether the innovation calculation really provides financial information that is useful for decision making. To be useful, information must be relevant, understandable, reliable and comparable. Therefore the requirements of relevance, reliability, understandability and comparability have to be examined.

Relevance

The information is designated as **relevant** when it affects the economic decisions of users by helping them to evaluate past, present or future events, as well as confirming or correcting their past evaluations (IFRS F.26). Usually R&D is immediately expensed in financial statements when it is incurred and an enterprise does not have to disclose when research and development activities were started in its notes (Baetge and Keitz, 2002; Küting and Dawo, 2003; Schreiber 2005; Hepers, 2005). Consequently, the users of financial statements can derive little or no information about a firm's R&D activity. The innovation calculation informs users of financial statements about the expensed R&D costs. With the help of the innovation calculation users of financial statements obtain information about productivity and value of a firm's R&D. Given the fact that R&D activities have an important impact on business profits, the information of the innovation calculation has the potential to affect a user's belief. Consequently, the information of the innovation calculation must be apparently relevant.

Understandability

Information must be **understandable** to enable users, who have a reasonable knowledge of business and economic activities and accounting, and who study the information with reasonable diligence, to comprehend

the real meaning of the information. In general the requirements of understandability appear uncontroversial because relevant information should not be excluded because it is too complex or difficult for certain users to understand (IFRS F.25). However, information is more understandable by aggregating, classifying and presenting it clearly. The innovation calculation shows clearly arranged all R&D projects, in which the firm has invested, and the amounts that were spent on these projects. Therefore the requirements of understandability are met.

Reliability

Reliability is given if the information is free from material error and bias and can be depended upon by users to represent faithfully that which it either purports to represent or could reasonably be expected to represent. The idea of an innovation calculation is that an enterprise should disclose in its notes when R&D activities were started. Then the innovation calculation contains all R&D expenses of the firm. Thus the innovation calculation gives a faithful picture of what has occurred and nothing material has been left out of this picture (Mindermann, 2009). Third parties are able to verify whether the information are true and in accordance with actuality because the innovation calculation is based on the actually expensed costs (Dawo, 2003). Hence the requirements of **reliability** are doubtlessly met.

Comparability

In order to assess a company's performance investors must be able to **compare** the financial statements of a company through time and to compare financial statements between firms, i.e. the investors need information which is consistent across firms and over time. It is the nature of R&D projects that they are unique to the firm and therefore projects are not suitable for comparisons between firms (Lev, 2001; Dawo, 2003). Thus the comparison between firms provides no or only little additional information. But the innovation calculation enables users to **compare** the financial statements of a company through time. Users are able to identify trends in the R&D activities and are therefore able to assess the value and productivity changes of R&D over time (Mindermann, 2009). For that reason the requirements of comparability are also met.

Conclusion

R&D expenses for the creation of new products have certainly been rising for the last years. As shown above, the innovation calculation provides useful information about R&D activities for outside investors. Otherwise this information couldn't be found in financial statements. Therefore IAS 38 should commit enterprises to state an innovation calculation of the type described above in the notes.

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THE EVALUATION OF BANK NETWORK
ROLE IN ECONOMIC GROWTH
(CASE STUDY OF GOLESTAN PROVINCE IN IRAN)

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Abstract

The main Purpose of this article is to evaluate bank Network in Economic growth and development Golestan Province the role of in Iran.

The type of this research method is applied and of two Procedures descripative-Survey and based on multiple Regression Analysis and Panel Data model Were used for data analysis.

The Statistical Subject of this investigation is all active banks during 1998- 2005 including 11 Commercial and Specialized banks.

To gather information the Survey of documents Consolidated Financial Statements of Commercial and Specialized Banking Were extracted and used.

Findings of the research showed that bank Facilities as Completed Capital Producer Can have Significant role investment and Production growth in the Province and model Cofficient Shows that Laination %1 Can increase at Banking Province Facilitics Value Can bring up (economy growth) Province up to % 0/27.

Key Words: bank Network-Financial Institutions-Economic Growth-Economic Development.

Introduction

Scientific and theorical development specially in financial systems and montery and financial organizations, in recent years established a great change. and became the origin of changes in thought toward economic environment and related organizations. Financial system is the main element of each economy. Financial system includes a network of financial markets, organizations, commercial companies, families and government, that participate in system and set system operation. financial and montery organizations as the mediators in this cycle provide services for people, campanies and governmental and non-govenmental orgaizations.

Literature Review

Economist have diffrent aproaches about the role of financial system in economic growth and development in a country. For example HICKS believes that financial system through providing nessessary investment for significant activities, played a vital role in industrilizing, England, Schumpter (1912)also construes that bank favorite funcrion motivates thechnologic inventions and in turn ecnomic development and growth. because banks with determining inventive plans which have more chance to be successful and providing for them financially leads to creation of new goods and new production prossess in economy and also more economic growth . ROBINSON (1952) belived that it is the production part which guides financial flaws and provides request economic develpment for different kinds of financial needs. Be believes that financial system is the follower of the true and real part of economy. I means when ever the real part developes then financial part also developes. most principle aproaches emphesize a positive relation between financial development and economic growth. LEVINE (1962) and GER SCHENKRON (1997) also believe that financial development is nessessary for economic growth. because private commercial banks are the vital tools for transferring savins to industry in many industrilized countries especially Germany inthe second half of the 19 century. also it seems that economists have different aproaches about the role of financial system in economic development and growth in a country, recent studies indicates that financial development leads to long-time

economic development .RAJAN AND ZINGALES (1998) provide evidence that indicates financial growth with decreasing financial costs for economic institues causes an increase in development and access to economic develoopment. also they Show that financial development is nessessary for establishing new institues in naional economy DEMIRGUC-KUNT and MAKSIMOVIC (1998) also show that financial organizations have a vital role in the development and growth in institues and diffrent industries. Zervos and LEVINE1998 also provide evidance that shows the importance of the efficiency of bank system for gaining economic development and it is vital role in it. More over many other studies show the positive effect of financial development and efficiancy of financial system on economic growth in general information accessing cost and interchang cost are the most important motivations for establishing financial institues in fact organization and financial markets are created to decrease the probelems related to information shortage and transaction cost. Levin (1997) defines five basic functions for financial systaem in economy including facilate inter chang covering, verifieing and pooling risks, allocation of superviser resourses on managers, and controlling componies. saving movings to facilate the interchane of goods and services the concept of financial development can be understood on the bases of these five functions it means that favirable and efficiant function of the financial system inestablishing mentioned function is equal to the development of financial system in a country. These two basic channels indicate the effect of financial market on economic growth these channals are: capital accumulations, thechnological innovetions related to the first channal it is important that financial organizatons such as banks cause a change in the rate of saving or with reallocation of saving among diffrent capital thechnologies causes capital accumulaton. LEVIN (1997) andMAYER (2002) also thechnological innovations for having aproper effect on the economic growth and development could affect the production of good and services and change their production prossess so nessessary investment for applying these innovation should be provided and financial organization can do it properly in this way financial system can enter technological innovations in production prossess and affect economic growth in genereal financial and montery mediaters can enhance the prossess of economic development and growth.

The empirical evidence in Support of the benefits of bank relationships is not overwhelming, however. Although Johnson (2003) finds that the use of Short term

bank debt can reduce the negative effects of underinvestment Problems on leverage, he also observes that Short term debt usage increases liquidity risk. Cable (1985) observes a Positive impact of German bank interactions on firm Performance but Edwards and Fischer (1994) question Cable's methodology and argue that the evidence is rather weak. Gorton and Schmid (1996) observe that a bank relationship improves firm accounting Performance in 1974 but does not have the Same Positive effect on firm accounting Performance in (1985). However, Gorton and Schmid (2000) find a Positive relation between close bank relationship and the market to book value of equity. Franks and Mayer (1996) report that concentrations of bank equity holding do not improve corporate control mechanism. Kaplan (1994) also observes no relation between board turnover, Performance, and bank equity ownership in Germany.

Research goals

The main purpose of this research is determining the role of bank network in province development beside the main purpose altenative goals are

1. determin commercial bank facilities in economic growth
2. determin specialized bank facilities in economic growth
3. determin TACLIF and NTACLIF facilties of commercial banks in economic growth
4. determin TACLIF and NTACLIF facilitties of specialized banks in economic growth

5.determin TACLIF and NTACLIF facilities on employment.

The aproaches of research:

1. bank facilities is effective on econimic growth in golestan

1-1 commercial bank facilities is effective on economic growth

1-2 facilities provided by specialized banks are effective on economic growth

1-3 TACLIF andNTACLIF facilities of comercial banks are effective on economic growth.

1-4 TACLIF andNTACLIF facilities of specialized

2. banks are effective on economic growth it seems that the effect of TACLIF and NTACLIF facilities are diffrent on province employment.

Research method

This reseach is analysed on the base of a kind of functional research a discriptive method and through data regression. this research is a Survey study. A Survey study is non-emperical surveys which goals are detecting the relation between variables in order to anallys the information for research aproaches data panell model is used. This model is a combination of time series data cross section data. In this model more statistical points are available for researcher and freedom degee increases and decreases the problemof similarity between discriptive variables. This prossees as a result increases the assessment efficincy of economic evaluation. Also useing information provie the possibilibty of analysing a great number of economic question.

Aproach methodology:

Model assessment

In order to show the role of Golsetan bank system in economic growth. Production function is used as follow:

$$y = f(L, C)$$

in this function variable (Y) stands for domestic grass production variable (L) stands for employment in province and variable (C) stands for bank facilities which is a substitude for investment variable in province production funtion.

$$\log(y) = \alpha + \beta_1 \log(C) + \beta_2 \log(L)$$

This function assess logaritmic and linear formula because of the absence of time series information and data in economic main parts. agriculture industry and mine abode and building and service the model of combination of time series and cross section data panell is used. in this model four parts: agruculture, industry and mining , abode and building and service are considered as cross variables and surveyed time is 1998-2005 the meaning fullness level of all tests are analyzed on at least %90 certainity. So in order to assess mentioned model information related to increase value variable separately for four part at are needed also other effective vaiable on increased value separately of four parts at 1998-2005 is needed according to data description variables increased value employment and facilities are collected separately for four parts in 1998-2005. on order to test the first aproach and separate the role of TACLIF and NTACLIF facilities in commercial and specialized banks several models are provided.

There are 12 panell data model as follow:

1. the role of bank facilities in economic growth in Golestan province.

In this model dependent variable of logaritm increased added-value and independent variables of Longaritm are employment bank facilities (the series of all bank facilities) separately for four department agriculture, industry and mineing , abode and building and service:

$$\log(y_{it}) = \alpha_{it} + \beta_{1it}\log(L_{it}) + \beta_{2it}\log(C_{it})$$

variable (Y) is added-value (L) is employment and (C) is bank facilities. (i) is the number of parts under investigate including four parts: agriculture, industry and mineing abode and building and service. And (t) is time period (1998-2005).

$$\log(y_{it}) = -2.7 + 1.15\log(L_{it}) + 0.27\log(C_{it})$$
$$(-3.11)\ (11.2) \qquad (3.75)$$
$$\overline{R}^2 = \%97 \qquad\qquad D.W = 1.47$$

So employment growth and encouraging employees toward employment and employment politics is both the cause and effect of economic growth in province and of courseit is so becase more employement leads to more production but another variable which is the subject of this paper and bank facilities have the meaningful coefficient of (sig= 0/0038). As it is expected according to theory the coefficient is positive. Since bank facilities as producer capital complementizer can play a major and important role in invesment and production growth in province. And this model also shows that %1 incrase in bank facilities can increase increased added-value (economic growth) up to %27 in province. It should be mentioned that because of applying variables as logarithm gained coefficient is an indicator of flexibility and sensibility of the dependent variable on each independent variable and we see that production flexibility or added-value is very sensitive to work for and employment and production flexibility is less sensitive to bank facilities.

2. the role of bank facilities in the growth of economic development

if we want to examine the role of bank facilities or in other words the role of bank system in economic growth of the parts divided into agriculture, industry and mining

abode and building and service we need to assess data panell with cross section specific coefficients.

$$LOG(y_{it}) = \alpha_{it} + \beta_{1it} \log(L_{it}) + \beta_{2it} \log(C)$$

This method differs from the previous on in β_{2it} coefficient. In the previous one the coefficient was constant but here it equals to the number of econmic parts or four here is the model.

$$\log(y_{it}) = 4.7 + 0.48 \log(L_{it}) + 0.31 \log(CA) + 0.26 \log(CI) + 0.24 \log(CC)$$
$$(0.8)\quad(0.84)\qquad\qquad(2.05)\qquad\qquad(1.99)\qquad\qquad(1.61)$$
$$+0.34 \log(CS)$$
$$(2.19)$$
$$\overline{R}^2 = \%97 \qquad\qquad D.W = 1.82$$

The model shows that the coefficien of facilities in agriculture(CA) has a positive effect on production the coefficient is %31 and meaningful the coefficients of facilities in industry (CI) and service(CS) are also positive and meaningful but coeffient of facilities in abode and building (CC) does not have a meaningful effect on production in province. So facilities provided for agriculture industry and service parts have had major role in economic growth and these three parts have equal effects because the coefficients in all of them is nearly the same.

3. the role of commercial banks facilities in economic growth in Golestan.

The role of bank duties is of prominent importance so the role of commercial and specialized banks is considered here separately in this part the role of commercial banks through providing facilities and credits in economic development.

$$\log(y_{it}) = \alpha + \beta_{1it} \log(L_{it}) + \beta_{2it} \log(CT_{it})$$

Here CT it the facilities provided by commercial banks. And (I) is the number of the four parts and (T) is time period from 1998_2005. to show the role of facilities

provided by commercial banks for agriculture industry abode and building and service parts and their effects on economic growth the coefficient of CT (commercial bank facilities) divided into four parts was calculated through data panell model.

$$\log(y_{it}) = \textit{Fixed effects} + 0.78\log(L_{it}) + 0.26\log(CTA) + 0.75\log(CTI)$$
$$(2.63) \qquad (1.57) \qquad (7.7)$$
$$- 0.006\log(CTC) + 0.06\log(CTS)$$
$$(-0.026) \qquad (0.64)$$
$$\overline{R}^2 = \%98 \qquad D.W = 1.65$$

here it is clear that facilities provided by commercial banks have affected economic growth only in industy . and other facilities provided by commercial bank in other economic parts are not meaningful of course it does not mean that commercial banks facilities and credits do not affect other parts but we can only state that: facilities provided tor industry has a more important rol in production growth and economic development.

4. the role of facilities provided by specialized bank in economic growth ini Golestan.

Accordin g to assessment model specialized banks through providing facilities and credits have a more important role in economic growth and creating increased value than commercial banks. According to assessment model for showing the role of specialized banks through providing facilities and credits for different economic parts. Three of these 4 parts have had positive and meaningful role in increased valued inprovince.

$$\log(y_{it}) = 4.5 + 0.61\log(L_{it}) + 0.2\ \log(CPA) + 0.21\log(CPI) + 0.14\log(CPC)$$
$$\qquad (0.79)\ (1.17) \qquad (2.25) \qquad\quad (2.09) \qquad\quad (1.38)$$
$$\qquad + 0.28\log(CPS)$$
$$\qquad (2.47)$$
$$\overline{R}^2 = \%97 \qquad\qquad D.W = 1.61$$

In the above model it is observed that providing facilities by specialized banks for service industry and agriculture parts can have a positive and meaningful effect in increased value in province. Coefficient of provided facilities for agricultural part (CPA) equals to %2 and coefficient of provided facilities for industrial part (CPI) equals to %21 and coefficient of service part (cps) equals to 0/28. but coefficient of provided facilities for abode and building (cpc) equals to 0/14 positive and it is meaningless. So by comparing the coefficients of commercial and specialized banks it can be asserted that the role of specialized banks through providing facilities and credits is much more important than the role of commercial banks in economic growth on the other hand considering the model and coefficients it becomes clear that the role of facilities for service part by specialized banks has been much more important then providing facilities for agriculture and industry it was also true about the genereal model of the effect of bank facilities on increased value in province.

5. the role TACLIF and NTACLIF facilities in economic growth

below there are 2 assessment models that are indicators of the role of TACLIF and NTACLIF facilities of commercial bank on economic growth in province.

Role of tAclif Facilities:

$$\log(y_{it}) = Fixed\ effects + 0.94\log(L_{it}) + 0.099\ \log(CTTA) + 0.69\log(CTTI)$$
$$\qquad\qquad\qquad (4) \qquad\qquad (1.91) \qquad\qquad (3.4)$$
$$\qquad + 0.03\log(CTTC) + 0.013\log(CTTS)$$
$$\qquad (0.23) \qquad\qquad (0.29)$$
$$\overline{R}^2 = \%95 \qquad\qquad D.W = 1.2$$

Role of NtAclif Facilities:

$$\log(y_{it}) = Fixed\ effects\ + 0.65 \log(L_{it}) + 0.26 \log(CTNA) + 0.75 \log(CTNI)$$
$$\qquad\qquad (3) \qquad\qquad (1.82) \qquad\qquad (8.64)$$
$$+ 0.39 \log(CTNC) + 0.065 \log(CTNS)$$
$$\qquad (2.37) \qquad\qquad (0.79)$$
$$\overline{R}^2 = \%97 \qquad\qquad D.W = 1.73$$

It is understood from the above models that coefficients of TACLIF facilities provided for agriculture part (CTTA) industry part (CTTI) abode and building part (CTTC) and service part (CTTS)is in the order that coefficients of agriculture part which is 0/099 and industry which is 0/69 are meaningful and positive and coefficients of abode and service parts are statistically meaningless so TACLIF facilities of commercial banks could affect economic growth in province only in agriculture and industry although in the next model it is seen that the role of NTACLIF facilities has been much more because it is clear in the model that coefficients of NTACLIF facilities provided for agriculture (CTNA) industry (CTNI) and abode and building (CTNC) are 0/26 0/75 and 0/39 respectively which are positive and meaningful and only coefficient of service part (CTNS) is statistically meaningless in both models it is observed that provided facilities for industry part has a more important role in province. Of course it was indicated before that provided facilitied for industry part in gerenral model could have a positive effection on economic growth in province.

6- the role of TACLIF and NTACLIF facilities of industrialized banks in economnic growth.

In the previous part it was observed that the role of NTACLIF facilities of commercial bank on economic growth has been more important than the role of TACLIF facilities.

Role of tAclif Facilities:

$$\log(y_{it}) = 14.7 - 0.12\log(L_{it}) + 0.08\,\log(CPTA) - 0.09\log(CPTI)$$
$$\quad (4.8)\quad (-0.43)\qquad\quad (1.25)\qquad\qquad (-0.88)$$
$$\qquad -0.135\log(CPTC)$$
$$\qquad\quad (-2.0)$$
$$\overline{R}^{2} = \%98 \qquad\qquad D.W = 2$$

Role of NtAclif Facilities:

$$\log(y_{it}) = Fixed\ effects\ +0.69\log(L_{it}) + 0.11\,\log(CPNA) + 0.25\log(CPNI)$$
$$\qquad\qquad\qquad\quad (2.4)\qquad\quad (2.3)\qquad\qquad (14.2)$$
$$\qquad +0.08\log(CPNC) + 0.09\log(CPNS)$$
$$\qquad\quad (3.4)\qquad\qquad (1.16)$$
$$\overline{R}^{2} = \%98 \qquad\qquad D.W = 1.5$$

The two assessments models show that the role of NTACLIF facilities of specialized banks on economic growth is relatively more thatn TACLIF facilities of these banks. Thereis no meaningful and positive coefficient in the model. And even the model shows that providing TACLIF facilities of commercial banks for abode and building part has a negative effection increased Added-value in province (coefficient of %13 related to CPTC)(of course because of paucity of evidence and abservation we should accept it cautiously and it is seen lack of evicence in this model causes the deletion of facilities of service part). But in the second model most of the coeficient s are meaningful and positive as it is expected from the theory. The role of NTACLIF facilities provided for agriculture part (CPNA) has a co efficient of %11 . for industry (CPNI) 0/25 for abode and building (CPNC) 0/84 and all are meaningful upto 0/99. the important pointis that the role of facilities of industry part is much more than other parts and the role of NTACLIF facilities of specialized bank for service part (CPNS) has no effect on economic growth . of course this case also observed in TACLIF facilities. means that facilities provided by specialized banks for service part cannot have any effect on economic growth.

Second aproach methodology

To examin the second hypothesis of the research TACLIF and NTACLIF facilities are used.

7. the role of TACLIF and NTACLIF facilities in employment.

NTACLIF facilities and credits have diffrent roles in employment. Every year for creating new employment opportunities and decreasing unemployment government obligates banks to provide facilities to creat new employments. This case has had a decreasing direction in the 3rd development program. Because the banks are not motivated to provide TACLIF facilities through government. On the whole this research is aimed at showing the effects of TACLIF and NTACLIF facilities on employment in province. For gaining this purpose data panell model useing employment data (L) increased value (Y) and and TACLIF facilities (TACLIF) and NTACLIF facilities (NTACLIF) is considered for the period from 1998-2005 by dividing four parts: agruculture industry abode and building and service. For this purpose 3 models are assessed.

$$\log(L_{it}) = Fixed\ effects + 0.022\log(TAKLIF) + 0.099\log(NTAKLIF)$$
$$(1.07) \qquad\qquad (2.5)$$
$$\overline{R}^2 = \%98 \qquad\qquad D.W = 2.4$$

In the first model the constant effects of the role of TACLIF and NTACLIF facilities on employment have been shown separately the model shows that TACLIF variable (TACLIF facilities has a positive but meaningless coefficient (0/022). So TACLIF facilities have had no effect on employment. But co effecient of NTACLIF (NTACLIF facilities) is positive and meaningful(0/099). So NTACLIF facilities can have a positive effect on employment in province. In next models the role of TACLIF facilities of economic parts jon employment is shown.

$$\log(L_{it}) = 5.7 + 0.38\log(y_{it}) + 0.05\ \log(TAKLIFA) + 0.004\log(TAKLIFI)$$
$$(3.4)\ (3.5) \qquad (0.6) \qquad\qquad (0.04)$$
$$+ 0.01\log(TAKLIFC) + 0.06\log(TAKLIFS)$$
$$(0.1) \qquad\qquad (0.6)$$
$$\overline{R}^2 = \%96 \qquad\qquad D.W = 1.85$$

This model shows that only production (Y) as an independent variable can effect employment. And TACLIF facilities in agriculture industry abode and building and service has no meaningful co efficient in employment. Now in another model the role of NTACLIF facilities on employment is shown.

$$\log(L_{it}) = 11.52 - 0.127\log(y_{it}) + 0.18\log(NTAKLIFA) + 0.09\log(NTAKLIFI)$$
$$(9.75) \quad (-1.2) \qquad\qquad (4.6) \qquad\qquad\qquad (2.75)$$
$$+ 0.087\log(NTAKLIFC) + 0.193\log(NTAKLIFS)$$
$$(2.12) \qquad\qquad (4.49)$$
$$\overline{R}^2 = \%97 \qquad\qquad D.W = 1.8$$

The model shows that the role of NTACLIF facilities in creating employment is completely diffrent from the role of TACLIF facilities as it is observed TACLIF facilitied of agriculture NTACLIF co efficient=0/18 industry (NTACLIF =0/009) abode and building (NTACLIF =0/008)and service (NTACLIF = 0/019) all have positive and meaningful coefficient.

Conclusion:

By analyzing the relationship between facilities employment and increased added-value by using data panell model following results were obtained:

1. there is a positive and meaningful relation between added-value and work force factor also there is positive relationship between facilities and added-valued but added-value of province is more sensitive to variations in work force factor rather than bank facilities.

2. when we examine the role of bank facilities on added-value independently for each part. The result indicate that except for abode facilities part thereis a meaningful relationship beween coefficients and and added-value in other parts in province.

3. in assessing the role of commercial bank facilities separately on added-value in province. The model showed that facilities in industry has a meaningful effect on in added-value. More over the work force employment had a meaningful relation. But facilities provided by commercial banks in

agriculture abode and building and service has no meaningful effect on added-value in province.

4. in assessing the role of facilities provided by specialized banks on economic growth by separating partsthe model showed that except for facilities provided for abode there was a meaninful relation between coefficients provided and added-valued in province.

5. in assessing the role NTACLIF facilities provided by commercial banks on increased value it was shown through the model that facilities in agriculture industry and abode had a meaningful effect on added-value but they had no meaningful effect on service.

6. in assessing the role of TACLIF facilities provided by specialized banks on added-value the model showed that except for facilities for abode part other parts have no meaningful effects on added-value in province.

7. in assessing the role of NTACLIF facilities provided by specialized banks on added-value it was shown that facilities in agriculture industry and abode had a meaningful relationship with added-value but there is no meaningful relationship with service part.

8. in assessing the role of facilities both TACLIF and NTACLIF added-value it was shown that NTACLIF facility has a meaningful relationship with added-value in province.

9. in assessing the role of TACLIF facilities on employment model it was shown that the TACLIF facilities provided for the four parts of (agriculture, industry, abode, service) had meaningful effect on employment. the model indicates that only added-value of province as an independent variable has a meaningful effect on employment as a dependent variable.

10. in assessing the role of NTACLIF facilities on employment the model indicated that all NTACLIF facilities provided for the four parts of agriculture abode and building industry and service have had a meaningful effect on employment in province.

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IDENTIFYING PRODUCTION CAPACITY OF
FOOD INDUSTRIES AIMING AT FINDING OUT THEIR MISSING LINK

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Abstract- The existence of economic organizations and the very growing number of such organizations are witnesses to human civilization. Lack of the dependent industries of one product in one area is a key factor to increase the product cost. The main aim of this survey is to study and recognize the production capacity of food industries aiming at identifying the missing link of such an industry in Golestan province, Iran.

This research is a descriptive one 165 members in dairy product companies in Golestan province were selected as a sample of study. The data were first collected by the distributed questionnaire among the above mentioned sample. Such a study was done on the basis of the 6[th] hypothesis. The obtained results of the 5 first hypotheses have shown that dairy product companies faced some limitation and restriction regarding supplying the raw materials. And also the results obtained on the last hypothesis showed that dairy products, oil, spaghetti, animal food and non-alcoholic drink companies had the ability to form an industrial cluster to supply the raw materials for their wrapping – up.

 Key word: food industries, the missing link, production capacity, cluster

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1 Introduction

In spite of the feet that the most production units in Iran, have been grouped into small and medium nutrition industries, lack of a development strategy based on the existing industrial structures in one hand and local autonomy of small production units on the other, have made these companies not being able to attract a remarkable percentage on GNP and thus, they suffer from such intensive[i].short coming as shortage of information about production level required amount of primary materials unavailability of materials act.

Theoretical support of phenomenon of clustering or integration, for the first time, was introduced by Alfred Marshal in the context of economical profits of integration [ii].

In the suggested frame, despite of their natural competition small companies are member of an independent network.

Integration's effects are of such an extent that the completion profits would be only understood in its frame concept by its newness and inadequate theoretical support, concept of industrial cluster still experiences ambiguities in both definition and application[iii]. Although Porter was first to start the idea of industrial cluster, but, a variety of definition were appeared since.

Industrial clusters are usually defined as a group of commercial companies and non commercial companies and commercial organization which, the key factor of the members is their competitive behavior. They are related through the role of supplier and porches and sellers of the others needs, using the same technologies, dealing with the same customers distribution channels, counseling and preserving public work forces. Competitive firms create the competitive clusters and economical attractions finally, make the clusters to converge[iv]. Even though some researchers have put emphasis on the role of social capital in the mutual cooperation's between companies contained within a cluster, it is yet possible for some members to not benefit from their membership[v]. The extent of space and time are the most prominent measures of clustering policies, affecting the decisions, related to the clustering plans. On the other hand, the data and materials used possibly delimit the clusters[vi]. Nevertheless when defying the clusters. There might be no need to consider all these limitations.

According to pro & Hirshman, the new emerging perspective discussed in the industrial and regional development is more perfect[vii]. In the industrial and regional development is more perfect. In this respect, regions, based on their natural, organizational, constitutional and humanity's advantage, should pay a serious attention to the development of a number of clusters and facilitate their different organizational facet if so, they would succeed in the national and international markets, control the more important parts of the supply chain, and improve and reconstruct the present structures against the universal fluctuations[viii].

In the context of progression and creation of industrial clusters in Golestan province, any changes should take on board the political, cultural, social and economical realities of the society. Ignoring these would lead to problems for industrial and mineral institutions with regard to quality production and cost [ix].

In this study, it is intended to evaluate the industrial clustering potential of the province, as perfectly as possible. It is worth noting that, until now, there has been no attempt for determining the missing link of

nutrition industrial of the province. Also, increasing umber of nutrition production units has made the related research to be of low practical usage.

This study has been tried with the purpose of analysis and recognition of the production capacities in order to determine missing link of nutrition industries of the Golestan province.

2 Materials and methodology

The present study is a descriptive one. Data collection was practiced through a library research as well as a pilot study; the library research was done for theoretical subjects and the pilot study was done to collect data and input. In this study the capacity of products was examined to find the lost links of nutrition industrial in Golestan province.

Subjects are real or theoretical and the results of this study include it because it was impossible to include all subjects [^{x}], the subjects of this study were just factory managers, dairy industries, and nutrition products in Golestan province. In this research sum 165 people who are managers as well as industry owners of Golestan province participate. A questionnaire was sent to all active industries. In this questionnaire it was emphasized that the collected data will be kept secret. The questionnaire was made up of two parts:

1) part 1 : general questions including 6 general questions considering managers
2) part 2: specialized questions consisting of 12 specialized questions

Because the sample subjects were not homogenous and it was probable to experience reduction of reliability and validity of means measurement.

To avoid this problem, classified sampling method was practiced and in order to examine the significance of answers, different tests were given. In other words, by the use of SPSS software, normal distribution curve, histograms and pie charts as well as a ratio in a population was practiced.

3 Results

During the study from among 140 presented questionnaires, 20 had received no answers, and 30 industrials were closed; these 50 questionnaires were excluded from the analysis and 90 questionnaires were analyzed.

On the basis of the collected data, 64% of manufacturing units of this province produce less then their nominal capacity 29% produce equal to their nominal capacity, 5% produce more then their nominal capacity and 2% of the managers didn't answer the questions.

The distribution of the nutrition product units in Golestan province is as follows:

1) West of Golestan: Gorgan, Agh Gahala, Bandar turkman, Kordkooy, Bandargaz, Nokande and Khajenafas.
2) Este of Golestan: including Aliabad, Gonbad, Azadshar, minoodasht, Kalaleh, Galikesh and Maravetapeh.

The collected data indicates that 63% of nutrition producing units locate in west of Golestan and 37% of such industries in east of Golestan.

Data shows that 56% of producing units in Golestan, present their products to other units. Meanwhile 44% of other units present their products directly to customers.

Table 1: distribution of percentage of producing units in Golestan province with regard to competing products

Competing or alternative products	Frequency	Comparative Frequency	Cumulative Frequency
Competing products exist	85%	94%	94%
No competing products	5	6%	6%
total	90	1	100%

Table 1 shows that 94% products in Golestan province have competitors while 6% of such units are unique and have no competitors in Golestan.

4 Discussions

Accepting hypotheses 1, 2,3,4,5 we came to the conclusion that dairy companies such as cream, cheese and milk deal with different limitations to provide their raw materials.

1) Dairy companies in Golestan provide 31% of their need from other provinces in Iran.

2) Dairy companies in Golestan provide25% of their need from abroad.

-Cheese yeast is imported from Denmark.

-Rulpery is imported from other province.

- All tin 16, 8, 4 are not produced in Golestan so dairy companies face 5% shortage.

On the basis of this data:

1. It is suggested to establishing an industrial unit with the latest technology
2. It is necessary to found Rulperyback producing company in order to supply what other dairy companies provinces need as extra products can be exported to other provinces as well as other Asian countries.
3. A producing company is needed to make plastic as well as tin in different sizes for dairy companies.
4. Craft three layer powder packets are imported from Tehran so it is advisable to establish a company with the latest technology in producing such packets.
5. Tetra pack seven layer sterile pockets are imported from abroad so it is logical to have such a company in this province.
6. Findings show that rice and flour producing companies provide 40% of their need from other provinces so it is recommended:

At least one modern company is needed to produce 50, 80,100, and 40 kilo sacks of kinds of thread.

7. Findings indicate that macaroni producing companies have to import 45% OF Califon, beta carton from Tehran and other provinces.
8. Findings show that 45% of packet Acid citric and Anti oxide is imported from Malaysia and Indonesia.

9. Finding show that 73% of dairy producing companies which produce cheese, cream and pasteurized milk produce less them their nominal capacity so it is advisable to help such companies increase their capacity using expertise and knowledge of experts.

10. Findings indicate that 68% of flour and bread producing companies in Golestan province produce less than their read capacity.

It is necessary for these companies to produce more because people really need them. It is useful to do more researches to know more problems ahead of producing companies in Golestan province

5 **References**

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