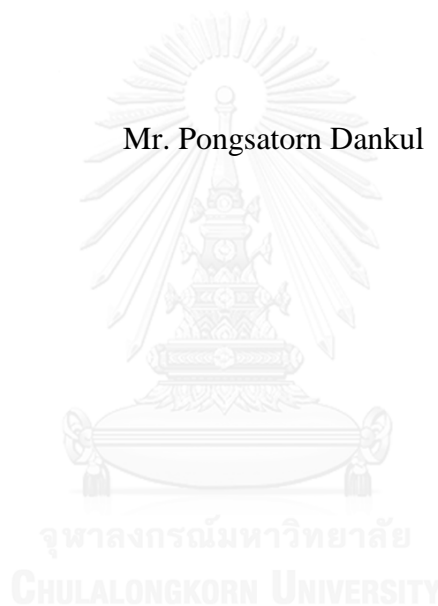EARNINGS MANAGEMENT, CORPORATE GOVERNANCE AND

CASH COMPENSATION: EVIDENCE FROM

THE STOCK EXCANGE OF THAILAND

Mr. Pongsatorn Dankul

A Thesis Submitted in Partial Fulfillment of the Requirements
for the Degree of Master of Science Program in Finance
Department of Banking and Finance
Faculty of Commerce and Accountancy
Chulalongkorn University
Academic Year 2015
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การจัดการกำไร ธรรมาภิบาล และเงินค่าตอบแทน: หลักฐานจากตลาดหลักทรัพย์แห่งประเทศไทย

นายพงศธร ด่านกุล

Thesis Title	EARNINGS MANAGEMENT, CORPORATE GOVERNANCE AND CASH COMPENSATION: EVIDENCE FROM THE STOCK EXCANGE OF THAILAND
By	Mr. Pongsatorn Dankul
Field of Study	Finance
Thesis Advisor	Associate Professor Sunti Tirapat, Ph.D.

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พงศธร ด่านกุล : การจัดการกำไร ธรรมาภิบาล และเงินค่าตอบแทน: หลักฐานจากตลาดหลักทรัพย์แห่งประเทศไทย (EARNINGS MANAGEMENT, CORPORATE GOVERNANCE AND CASH COMPENSATION: EVIDENCE FROM THE STOCK EXCANGE OF THAILAND) อ.ที่ปรึกษาวิทยานิพนธ์หลัก: รศ. ดร. สันติ ถิรพัฒน์, 52 หน้า.

การศึกษาในอดีตแสดงให้เห็นถึงหลักฐานของการใช้การจัดการกำไรเพื่อเพิ่มค่าตอบแทน เมื่อค่าตอบแทนของผู้บริหารและกรรมการอิสระอ้างอิงจากผลประกอบการของบริษัทอาจจะทำให้ผู้บริหารหรือกรรมการอิสระที่ต้องการแสวงหาประโยชน์ส่วนตนปรับปรุงผลประกอบการให้ดูดีขึ้นจากการใช้การจัดการกำไร วิทยานิพนธ์ฉบับนี้ศึกษาความสัมพันธ์ระหว่างการจัดการกำไร เงินค่าตอบแทน และธรรมาภิบาล อีกทั้งยังศึกษาเรื่องผลกระทบของเงินค่าตอบแทนและธรรมาภิบาลต่อผลประกอบการของบริษัทที่ปรับปรุงจากการจัดการกำไรแล้ว นอกจากนี้วิทยานิพนธ์ฉบับนี้ศึกษาเพิ่มเติมเกี่ยวกับผลกระทบต่อตลาดหุ้นต่อเปลี่ยนแปลงเงินค่าตอบแทนและรายการคงค้างในดุลยพินิจของผู้บริหารในระหว่างช่วงวันประกาศแบบ 56-1 ขอมูลที่ใช้ในการศึกษาในวิทยานิพนธ์ได้แก่บริษัทที่จดทะเบียนในตลาดหลักทรัพย์แห่งประเทศไทยในตั้งแต่ปี พ.ศ. 2548 ถึงปี พ.ศ. 2556 ผลการศึกษาแสดงว่าการเปลี่ยนแปลงเงินค่าตอบแทนของผู้บริหารไม่มีความสัมพันธ์กับการจัดการกำไร การเพิ่มเงินค่าตอบแทนของผู้บริหารช่วยพัฒนาผลประกอบการ การเพิ่มเงินค่าตอบแทนของกรรมการอิสระช่วยลดการใช้การจัดการกำไร

ภาควิชา	การธนาคารและการเงิน	ลายมือชื่อนิสิต	
สาขาวิชา	การเงิน	ลายมือชื่อ อ.ที่ปรึกษาหลัก	
ปีการศึกษา	2558		

\# \# 5682979926 : MAJOR FINANCE

KEYWORDS: EARNINGS MANAGEMENT / CORPORATE GOVERNANCE / COMPENSATION

PONGSATORN DANKUL: EARNINGS MANAGEMENT, CORPORATE GOVERNANCE AND CASH COMPENSATION: EVIDENCE FROM THE STOCK EXCANGE OF THAILAND. ADVISOR: ASSOC. PROF. SUNTI TIRAPAT, Ph.D., 52 pp.

Prior studies provide the evidence of using earnings management to increase the value of compensation. When managers and independent directors' cash compensations are based on firm's financial performance, it may lead those who pursue self-interest to give appearance of better performance through earnings management. This thesis examines the relation between earnings management, cash compensation and corporate governance. This thesis also examines the impact of cash compensation and corporate governance on adjusted firm financial performance with the effects of earnings management. This thesis further investigate whether market react to the change in cash compensation and discretionary accruals around the form 56-1 announcement date. Sample in this thesis is Thai listed firms in Stock Exchange of Thailand during 2005 to 2013. The results suggest the change in cash compensation of executive officers does not relate to earnings management. Increasing the cash compensation for executive officers improves the firm financial performance. The increasing in cash compensation of independent directors help reducing the use of earnings management.

Department: Banking and Finance   Student's Signature ....

Field of Study: Finance   Advisor's Signature ....

Academic Year: 2015

ACKNOWLEDGEMENTS

I would like to give thanks to many people who helped me in various ways in this thesis. First of all, I would like to pass my gratitude to say thank you to Assoc. Prof. Dr. Sunti Tirapat, my advisor, for his advice, valuable guidance and encouragement throughout my study. I am deeply thankful for his help.

Moreover, I would like to express my appreciation to the committees, Dr. Suparatana Tanthanongsakkun and Dr. Narapong Srivisal, who involved in giving me advise and pass very useful information to me and as well as the external examiner, Assoc. Prof. Dr. Aekkachai Nittayagasetwat.

Many thanks also to administrative staff, Miss Chanthima Boonthueng, who have helped in dealing with many documents and situations, and delivering useful information.

I would like to appreciate the help from Miss Pittaya, Miss Veeraya, Mr. Porawat, and Mr. Chawarat. I am extremely grateful for their assistance, suggestion, and endless support. I also thank my fellow classmates and other friends for their friendship and encouragement.

Finally, my very insightful gratitude is dedicated to my parents and family for their support and encouragement in many ways throughout all the years taken to complete this study. This achievement cannot be possible without all these people and some that I did not mention.

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CHAPTER I

INTRODUCTION

1.1 Background and Problem Review

Earnings management is an intentional act to manipulate the firm's financial report on earning for some benefits. Earnings management may impact investors in the capital market. When investors receive false information of firms due to manipulation of earnings, they might miscalculate the real value of stock and cannot make a decision whether to buy, sell or hold stocks in the market. When managers and independent directors' cash compensations are based on firm's financial performance, it may lead those who pursue self-interest to give a better appearance of performance through earnings management.

Firms in Thailand are established under laws and regulations, such as Public Limited Companies Act, the Securities and Exchange Act, and the Civil and Commercial Code. These laws have provided the foundations, institutional settings, supervisory framework, and enforcement rules. For the firms in the capital market, there are secondary regulations about corporate governance ruled by the Stock Exchange of Thailand and also some regulatory notifications by the Securities and Exchange Commission. Though rules and regulations are constructed to control the overall system, corporate governance in Thailand, still, has been in progress with corporate governance reforms since crisis in 1997. At the moment, Thailand is classified as one of the emerging countries. The World Bank announced that Thailand is a leader in corporate governance among Asian and emerging economies.

Recently, a research on earnings management, Cornett, Marcus, and Tehranian (2008) provides new evidence that option compensation of CEOs does not have a positive relation with the firm performance after it is adjusted with the earning management. Their study focuses on the relationship between earnings management, using discretionary accruals as a proxy, and corporate governance variables composed of institutional ownership and management characteristics. The results from their study suggest that earnings management level get lower when the firm has a strong monitoring of management decisions from institutional ownership of shares, institutional representation on board, and independent outside directors on the board. Ye (2014) finds a positive relationship between independent director cash compensation and earnings management in Chinese stock markets. Also the evidence from Japanese stock markets by Shuto (2007) presents that the use of discretionary accruals leads to the increase in executive cash compensation.

The work on earnings management and corporate governance is also done in Thailand. The previous study of Wirotrangsan (2005) about relation of earnings management, corporate governance and role of board and audit committee finds that inside directors have a positive relation with earnings management but finds a negative relation for independent directors. The researcher suggest that independent directors help monitoring managers and reducing earnings management. The relation between audit committee and earnings management is not found in his study on the 595 firm-year observations from Stock Exchange of Thailand during period of 2001-2004. Eamsherangkoon (2008) aims to investigate the relation of cash holdings, earnings management and corporate governance on 246 listed firm during period of 2002-2007. The researcher constructs Corporate Governance Index and use it as a proxy for

corporate governance. With analysis of two regression models and robustness test, this study finds no significant association of corporate cash holdings with CGI and earnings management which may due to the possibility of limitations.

Others work on firm performance and compensation in Thailand, Limrattanapan (2008) finds no evidences to support the relationship between firm performance and executive pay. In contrast, Jaithita (2010) finds a positive relationship between boards and executive's compensation and firm performance from the listed firms in SET. She suggest that compensation is an incentive for executive to increase the performance of a company.

1.2 Statement of Problem/Research Question

Prior study of Cornett et al. (2008) finds the positive relation between reported firm financial performance and option compensation but after removing the impact of earnings management from reported firm financial performance, the relationship of option compensation is disappeared. My thesis aim to answer the question "how governance structure and cash compensation affect future earnings management?" Second question is "how governance structure and cash compensation have an influence on firm future financial performance, when measured performance is adjusted for impact of earnings management?" Another is "how market react to earnings management and cash compensation?"

1.3 Objective of the Study

The previous studies mostly focus on the strong corporate governance and well shareholder protected environment such as United State. Manipulation of financial firm

report might become more severe in the emerging countries such as Thailand. This thesis examine the relation between earnings management, corporate governance and cash compensation in Thai stock market to provide further empirical evidence on emerging and also fill the gap from previous studies.

1.4 Scope of the Study

This thesis focus on Thai listed firms in Stock Exchange of Thailand during 2005 to 2013. This study examines the relation of earnings management, cash compensation and alongside with corporate governance. This study also examines the impact of cash compensation and corporate governance on adjusted firm financial performance with the effects of earnings management. Moreover, the event study analysis is used to find the market reaction to the change of cash compensation and earnings management.

1.5 Contribution

This study provides evidence of relation between earnings management and cash compensation in emerging market and weak corporate governance environment such as Thailand. Examining data form emerging market and weak corporate governance environment may or may not have different result from the developed countries.

1.6 Organization of the Study

The remainder of this study is organized as follows. Chapter II provides the literature review and hypothesis development. Chapter III describes data and

methodology. Chapter IV reports the results and discussion, and lastly, Chapter V

concludes the results of this study and suggests an area for future research.

CHAPTER II

LITERATURE REVIEW

2.1 Concept and Theoretical Background

Agency theory

Agency theory (Michael C. Jensen & Meckling, 1976) is the relationship between two parties. The first party is called the principal who delegates work to another party, called the agent. In this relationship, the principal hires an agent to do the work, or to perform a task in behalf of the principal. As a role of agents, they must act only for the interest of their principals. Agency theory assumes both the principal and the agent are motivated by self-interest. If both parties are motivated by self-interest, agents are likely to pursue self-interested objectives that deviate and even conflict with the goals of the principal, this lead to agency problem and conflict of interest.

2.2 Earnings management

The original work of Healy (1985) addresses that the earnings management are used by managers to obtain an abnormal bonus. He is the first researcher who estimates the earnings management by estimating discretionary accruals. The accruals are under prudential decision of the management and are considered as a proxy for earnings management behavior. In his work, he tests the bonus-maximizing hypothesis of managerial behavior. He address the total accruals are a composition of two components, non-discretionary accruals and discretionary accrual. The non-discretionary accruals are the expected level of accruals in the firm given no manipulation. His assumption is that in expectation, the non-discretionary accruals are

zero. Later work of Sloan (1996) finds that the manager may be able to increase stock price temporary with earnings management. His work investigates whether stock prices reflect information about future earnings contained in the accrual and cash flow components of current earnings. Beneish and Vargus (2002) analyze accruals, insider sales, and subsequent earnings. They find that periods of very high accruals are associated with sales of shares by insiders, and after the incident the stock returns tend to be low. This result indicates that the market views discretionary accruals as opportunistic.

However, several studies find that earnings management can less likely to occur with good corporate governance (Beasley (1996); Dechow, Sloan, and Sweeney (1996); Klein (2002)). Dechow et al. (1996) investigates the motives for and consequences of earnings manipulation in the sample of firms targeted by SEC for allegedly overstating earnings. The one of findings is that firms use earnings management for raise external financing at low cost but they cannot find the systematic evidence that managers use earnings management to obtain more compensation bonus or to gain wealth from selling their stockholdings at inflated prices. They also find that the weak corporate governance structures is one of the factor for earnings management.

2.3 Corporate governance mechanisms

2.3.1 Institutional ownership

Some studies perform evidences that institutional ownership can constrain earnings management. Chung, Firth, and Kim (2002) hypothesize that institutional investors with substantial investment stakes in a firm will monitor accounting choices made by managers and will prohibit managers from using earnings management. They design their research to find the relation of discretionary accruals as an earnings

management proxy and other firms' characteristic variables including institutional ownership, which they using the dummy of firms that have the institutional ownership above the mean as a proxy. They find evidence can imply that large shareholding by institutional investors play active role in monitoring managerial opportunism as it relates to discretionary accruals. If institutional ownership can constrain earnings management, it may lower use of discretionary accruals.

2.3.2 Director and executive officer stock ownership

Francis, Maydew, and Sparks (1999) conclude that there is no systematic relationship between management ownership and accounting accruals. However, managers or directors may use discretionary accruals to improve the firm performance in the period of event which they want to sell stocks or/and option exercises. With higher ownership of stocks or/and option may lead to self-interest improving their wealth. In the work of Cornett et al. (2008) also find a significant positive relationship between the percentage of stock ownership by directors and executive officers and the discretionary accruals. Base on this evidence, I cannot drop the director and executive officer stock ownership from my regression. The director and executive officer stock ownership may have a positive relationship with earnings management.

2.4 Board of directors characteristics

2.4.1 Percentage of independent directors on the board

Board of directors has one of an important roles as monitoring firm and managers for the shareholders. Outside directors are required because they are more likely to be independent from firm's managers. The studies of Rosenstein and Wyatt (1990), Byrd and Hickman (1992) and Brickley, Coles, and Terry (1994) find stock returns and operating performance are improved when the percentage of independent

directors on board is high. Xie, Davidson, and DaDalt (2003) state their findings that earnings management is less likely to occur or occurs less often in firm with more independent directors. The independent directors may improve the monitoring and also constrain earnings management. The percentage of independent director on board would lower use of discretionary accruals.

2.4.2 CEO/Chair duality

Directors have a role of controlling managerial behavior and insuring the interests of shareholders. Michael C Jensen (1993) suggest that CEO duality may lower board's ability to monitor management. The lower board's ability to monitor management maybe associated with greater use of discretionary accruals

2.4.3 Board size

There are two sides of evidence in board size. Dalton, Daily, Johnson, and Ellstrand (1999) find a positive relation between board size and financial performance. However, Yermack (1996) and Eisenberg, Sundgren, and Wells (1998) suggest that smaller board are associated with better firm performances. With the small board size, it would associated with less use of earnings management. Due to the confliction of these evidence, I cannot remove board size from my regression. In the case of earnings management, small board size maybe more likely active in monitoring. If small boards can strengthen monitoring, they would also lower the use of earnings management.

2.5 Cash compensation

Ye (2014) studied the impact of cash compensation of independent directors on firms' financial reporting quality with firms listed in Chinese stock market. By using absolute value of discretionary accruals as a proxy of earnings management, he suggests that higher cash compensation pay for independent directors in Chinese listed firms impairs their independence

and makes them less effective in financial reporting oversight. He finds the positive relation between cash compensation and earnings management. Under the difference condition to U.S. stock market where most listed firms provide stock or option compensations to outside directors, Chinese listed firms reward independent directors with only cash compensation and also with different ownership structure. Another study of Shuto (2007), executive compensation and earnings management: empirical evidence from Japan, uses the total of cash compensation of all directors on the board as a proxy for executive compensation. This study uses cash compensation as the dependent variable and cash flow from operation, nondiscretionary accruals, and discretionary accruals as independent variables to analysis the relation between executive compensation and earnings management. The result indicate that the use of discretionary accruals increases executive compensation. However, this study still has some limitation on research such as disclosure on compensation of executive.

2.6 Firm performance and compensation

The works in firm performance and compensation are examined in Thailand. Limrattanapan (2008) find no evidences to support the relationship between firm performance and executive pay but he find that leverage has an impact to determine the percentage change in executive pay. The more leverage firms have, the more compensation executive receive. He use lag of percentage change in following performance measurement as a proxy, i.e., return on asset, return on sale, Tobin's Q, annual stock return. In contrast, Jaithita (2010) finds that compensation of board of directors and compensation of executive have a positive relationship with firm performance (Tobin's Q, Return on Asset and Return on Equity). She suggest that compensation is an incentive for executive to increase the firm performance, to achieve higher compensation. Sottikornkul (2011) also research the relationship about this topic in MAI listed firms. He find that compensation of the directors on board has a negative

relationship with firm performance but find no evidences to support the relationship between compensation of executive and firm performance. He suggest that compensation of board of directors in MAI listed firm has same criteria as compensation paid to board of directors in SET listed firm. Thus, board of directors is over-paid for smaller size and lower performance in MAI compare to SET.

2.7 Hypotheses Development

Agency theory is directed at the agency relationship, in which the principal delegates work to the agent, who performs that work. In this case, shareholders are the principal and managers are the agent. The role of the board of directors is to monitor the executives and report the information back to shareholders. When managers and independent directors' cash compensations are based on firm's financial performance, it may lead those who pursue self-interest to give appearance of better performance through earnings management.

Prior research has shown that well-designed corporate governance arrangements can limit the level of earnings management. Recently work on earnings management, Cornett et al. (2008) also find that earnings management through the use of discretionary accruals is lower when there are good monitoring sources such as from independent directors on board and institutional ownership of shares. They also find a positive relation between earnings management and the option compensation of CEOs. Ye (2014) also find a positive relation between independent director cash compensation and earnings management in Chinese stock markets. Following these findings, I curious that earnings management is lower with good corporate governance but has positive relation to cash compensation in Thailand stock market.

Hypothesis 1: Cash compensation of independent directors and executive management team are positively associated with future earnings management after controlling with corporate governance variables.

Another finding of Cornett et al. (2008) is the positive impact of option compensation on firm performance. After they remove the impact of earnings management from estimated firm financial performance, the relationship of option compensation is disappears. To confirm the previous finding is still hold, I hypothesize that cash compensation is not associated with the true firm performance even though firms are in difference environment, i.e. the emerging market.

Hypothesis 2: Cash compensation of independent directors and executives of management team are not associated with firm future financial performance with adjustment of earnings management.

When compensation is increased, it might be incentive for managers and board of directors to perform with their best effort. Manager should perform better and use less earnings management for self-interest. In other hand, the board of director should monitoring management and prevent managers form earnings management. If the market participators are rational, they must react negatively (positively) to the firm that increase compensation and increase (decrease) discretionary accruals.

Hypothesis 3: Market negatively (positively) react to the firm that increase compensation and increase (decrease) in discretionary accruals.

CHAPTER III

DATA AND METHODOLOGY

3.1 Data and Sample

The sample contains data of all selected firms listed in the Stock Exchange of Thailand (SET) during the period from 2005 to 2013. Financial information of each firm is obtained from SETSMART. The information of corporate governance and compensations are obtained by hand-collect from the 56-1 form of each firm through the sampling period which provided on the website of The Securities and Exchange Commission of Thailand (SEC) and SETSMART. Stocks price are obtained from Bloomberg. The data used in this thesis consists of 217 firms in 9 year periods or 1953 firm-year observations.

The sample is selected following these criteria:

1. The firms must be listed on SET and operate in the period from 2004 to 2013.

2. Financial statements and all needed data for study are available for each firm and each year in the sample period.

3. The firm is not a financial institution.

3.1.1 Discretionary accruals

The accruals are under prudential decision of the management and are considered a proxy for earnings management behavior. The total accruals is a composition of two components, non-discretionary accruals and discretionary accrual. The non-discretionary accruals are the expected level of accruals in the firm assumed no manipulation.

In this study, I use the discretionary accruals as a proxy for Earnings management. To calculate that I have use a regression formula, the modified version of Jones (1991), so-called modified Jones (Dechow, Sloan, & Sweeney, 1995), for the estimation. Discretionary accruals are calculated from the difference of two part, total accruals and non-discretional accruals. Non-discretionary accruals are estimated with fitted value computed from total accruals regression.

The difference between the balance sheet and cash flow statement is the non-cash transaction (e.g. depreciation). First, Total accruals can be computed from the statement of cash flows as net income minus cash flows from operations.

$$TA_{jt} = NI_{jt} - CFO_{jt} \tag{1}$$

Where TA_{jt} is total accruals for firm j in year t, NI_{jt} is net income for firm j in year t, CFO_{jt} is cash flows from operations for firm j in year t.

I estimate Total accruals and scaled by lagged assets form following equation:

$$\frac{TA_{jt}}{Assets_{jt-1}} = \alpha_0 \frac{1}{Assets_{jt-1}} + \beta_1 \frac{\Delta Sales_{jt}}{Assets_{jt-1}} + \beta_2 \frac{PPE_{jt}}{Assets_{jt-1}} + \varepsilon_{jt} \tag{2}$$

Where $Assets_{jt}$ is total assets for firm j in year t, $\Delta Sales_{jt}$ is change in sales for firm j in year t, and PPE_{jt} is property, plant, equipment for firm j in year t.

In Jones (1991) approach, the change in sales is used to control for the firm's operating accruals, while the property, plant and equipment is used to control for the portion of total accruals related to non-discretionary depreciation expenses.

Discretionary accruals as a fraction of assets or $\%DA_{jt}$ are defined as total accruals minus non-discretionary accruals:

$$\%DA_{jt} = \underbrace{\frac{TA_{jt}}{Assets_{jt-1}}}_{\text{Total accruals}} - \underbrace{\left(\hat{\alpha}_0 \frac{1}{Assets_{jt-1}} + \hat{\beta}_1 \frac{\Delta Sales_{jt} - \Delta Receivables_{jt}}{Assets_{jt-1}} + \hat{\beta}_2 \frac{PPE_{jt}}{Assets_{jt-1}}\right)}_{\text{non-discretionary accruals}} \tag{3}$$

Where hats are the estimated coefficients from regression in Eq.2. $\Delta Receivables_{jt}$ is the change in receivables for firm j in year t which is the modification of the Jones model.

In the Dechow et al. (1995) approach, the change in receivables is deducted to eliminate the error of measurement due to the possibility of discretion from account receivables.

The absolute value of discretionary accruals is used in the regression to capture both effect of income-increasing and income-decreasing earnings management. The value of discretionary accruals might involve extremely positive or negative. Firms with large income-increasing (extremely positive) from the previous year have a possibility to reverse the discretionary accruals in the following year. Since the reversal of discretionary accruals must occur at some point of time, I use the absolute value of the discretionary accruals to measure the magnitude of earnings management and to determine whether earnings management occurs.

3.1.2 Firm Performance

Firm financial performance is measured by using the accounting data as EBIT on Assets. In this EBIT on Assets calculation, returns are measure with earnings before interest and tax (EBIT) to project return on all source of assets invested.

With only EBIT/Assets might be miss represent true firm performance because of the result of manipulation. To present that, I use the measure of unmanaged performance as (EBIT-Discretionary Accruals)/Assets which is equal to EBIT/Assets - %DA following Cornett et al. (2008).

3.1.3 Corporate Governance and others Variables

1) Institutional ownership: I use shares owned by institutional investor fraction by all shares as a measurement. The data is collected from publicly announced of the top ten major shareholders listed in 56-1 forms.

2) Percentage of shares owned by directors and executive officers as a fraction of all shares.

3) Fraction of board of directors composed of independent outside directors.

4) Market-adjusted return on stock is calculated by annual firm return minus the return on SET Index.

5) Dummy of CEO duality: If CEO holds the position of the chairman of the board of directors, equals to one. Equals zero, otherwise.

6) Numbers of directors on board.

7) Natural log of the CEO's age.

8) Natural log of the CEO's tenure.

9) Natural log of total assets of firm.

3.1.4 Cash compensation

The data of cash compensation is collected in form of total amount of compensation paid to all independent directors and executive of management team to construct the change in cash compensation as the following:

1) Change in cash compensation of independent directors as a fraction of previous year cash compensation. Cash compensation is included salary, bonus and other.

2) Change in cash compensation of the CEO and executive of management team as a fraction of previous year cash compensation. Cash compensation is included salary, bonus and other.

3.2 Methodology

To test hypothesis 1 and 2, my methods closely follow those of Cornett et al. (2008). I estimate two set of regression. The first set studies about earnings management and its relation with corporate governance variables and cash compensation. The dependent variable is the absolute value of discretionary accruals divided by assets. The explanatory variables are cash compensation and corporate governance variables. Corporate governance variables consist of institutional ownership and management characteristics. The second set studies about relationship between financial performance and the same variables as the first set. The dependent variable is the firm performance without the adjustment of earnings management and the firm performance with the adjustment.

I estimate regression explaining discretionary accruals and financial performance in two ways. First method, I estimate panel regressions allowing for firm fixed effects. However, because these regressions analysis based on 8 years of panel data in which the same firm can appear multiple times in the sample. These observation may not be independent and possibly involve in autocorrelation within-firm problems. Using the Fama-MacBeth (1973) approach, I estimate each independently regression equation as a cross-sectional regression for each year of the sample and compute autocorrelation-corrected Fama-MacBeth estimates. The Fama-MacBeth approach can eliminate these problems.

To test hypothesis 1, this study uses following regression allowing firm fixed effects for panel regressions to analysis and estimate the relation of earnings management, corporate governance variables and cash compensation.

$$\left|\%DA_{jt}\right| = \alpha + \beta_1 InstiOwner_{jt-1} + \beta_2 Shares_{jt-1} + \beta_3 FIndepen_{jt-1} +$$
$$\beta_4 CEODual_{jt} + \beta_5 BoardSize_{jt} + \beta_6 \ln(CEOAge)_{jt} +$$
$$\beta_7 \ln(CEOTenure)_{jt} + \beta_8 \ln(Asset)_{jt-1} +$$
$$\beta_9 \Delta CashComEx_{jt-1} + \beta_{10} \Delta CashComIn_{jt-1} + \varepsilon_{jt} \qquad (4)$$

Where:

- $\left|\%DA_{jt}\right|$ is the absolute value of discretionary.

- $InstiOwner$ is percentage of shares owned by institutional investors (lagged one year).

- $Shares$ is percentage of shares owned by directors and executive officers as a fraction of all shares. (lagged one year).

- $FIndepen$ is fraction of board of directors composed of independent outside directors (lagged one year).

- $CEODual$ is a dummy of CEO duality.

- $BoardSize$ is number of directors on board.

- $\ln(CEOAge)$ is natural log of the CEO's age.

- $\ln(CEOTenure)$ is natural log of the CEO's tenure.

- $\ln(Asset)$ is natural log of total assets of the firm (lagged one year).

- $\Delta CashComEx$ is the change in cash compensation of the CEO and executive of management team as a fraction of previous year cash compensation (lagged one year).

- $\Delta CashComIn$ is the change in cash compensation of independence directors as a fraction of previous year cash compensation (lagged one year).

To test hypothesis 2, this study uses following regressions allowing firm fixed effects for panel regressions to analysis and estimate the relation of firms' performance, corporate governance variables and cash compensation.

Reported performance

$$\frac{EBIT_{jt}}{Assets_{jt}} = \alpha + \beta_1 InstiOwner_{jt-1} + \beta_2 Shares_{jt-1} + \beta_3 FIndepen_{jt-1} +$$

$$\beta_4 StockReturn_{jt-1} + \beta_5 CEODual_{jt} + \beta_6 BoardSize_{jt} +$$

$$\beta_7 \ln(CEOAge)_{jt} + \beta_8 \ln(CEOTenure)_{jt} + \beta_9 \ln(Asset)_{jt-1} +$$

$$\beta_{10}\Delta CashComEx_{jt-1} + \beta_{11}\Delta CashComIn_{jt-1} + \varepsilon_{jt} \qquad (5)$$

To compare the difference of normal reported performance and the earnings management adjusted I use another regression as follow,

$$\frac{EBIT_{jt}}{Assets_{jt}} - \%DA_{jt} = \alpha + \beta_1 InstiOwner_{jt-1} + \beta_2 Shares_{jt-1} +$$

$$\beta_3 FIndepen_{jt-1} + \beta_4 StockReturn_{jt-1} +$$

$$\beta_5 CEODual_{jt} + \beta_6 BoardSize_{jt} + \beta_7 \ln(CEOAge)_{jt} +$$

$$\beta_8 \ln(CEOTenure)_{jt} + \beta_9 \ln(Asset)_{jt-1} +$$

$$\beta_{10}\Delta CashComEx_{jt-1} + \beta_{11}\Delta CashComIn_{jt-1} + \varepsilon_{jt} \quad (6)$$

Where:

- $EBIT$ is firm's earnings before interest and tax.
- $StockReturn$ is market-adjusted return on stock, calculated from annual firm return minus market return (lagged one year).

I include the lagged market-adjusted return of the firm which is annual firm return minus the return on market as a control variable in the firm-performance regressions. For the case that institutions are attracted to high-performance firms, it is likely that a positive association between institutional ownership and performance is to be observed though the ownership might not be beneficial to performance straightforwardly. In order to control that effect, the market adjusted return of the firm is taken into account. The impact of increased expectation for improvement in future operating performance is on a positive market-adjust. This variable is helpful in controlling any probable changes in the performance.

To test hypothesis 3, this study uses event study methodology to measure the stock price's abnormal effect. Assuming the market participators are rational, the impacts and effects of an event will reflect on the price changes. Separating firms in to two portfolios, the first is firms that increase compensation and increase in discretionary accruals. Second portfolio is the firms that increase compensation and decrease in discretionary accruals.

To begin with, the event day is the day that form 56-1 is publicly announced. The event window period is 41 days, which the event period is [-20,+20] of trading day. The estimation period starts on 110th trading date to 21st trading date before form 56-1 announcement date (starts day t-110 and ends with day $t - 21$).

I measure impact of the event by estimating the abnormal return on the event period by using the below equation;

$$AR_{it} = R_{it} - (\hat{\alpha} + \hat{\beta} R_{mt}) \tag{7}$$

Where:

- AR_{it} is abnormal return for firm i, day t.

- R_{it} is the raw return for firm i, day t.

- R_{mt} is the market returns on day t.

- $\hat{\alpha}$ and $\hat{\beta}$ are parameters estimated from the estimated period. The estimation

  comes from the following equation.

$$R_{it} = \alpha + \beta R_{mt} + \varepsilon_{it} \tag{8}$$

Then, I take the average across abnormal return of all stocks in each portfolio. This procedure can eliminate firm-specific information that could affect to the return during event window. The average abnormal return, that is;

$$AAR_t = \frac{1}{N}\sum_{i=1}^{N} AR_{it} \tag{9}$$

Where: N is number of firms.

The average abnormal returns have to be summed up over the event window in order to see the overall impact of such event. Therefore, I have to cumulate an average abnormal return by using the cumulative average abnormal return (CAAR).

$$CAAR_T = \sum_{i=1}^{T} ARR_t \tag{10}$$

Where: T is the total number of dates being summed (T = 1,2,3,…,D).

D is the total number of dates in sample.

I apply t-statistic to test the average abnormal return and the cumulative average abnormal return whether they are statistically significant or not.

3.2.1 Robustness Test

Earnings management proxy

In this topic, there are several models to estimate discretionary accruals. I test another approaches of discretionary accruals to confirm the result from the previous model.

Jones (1991) uses the residual from regression of total accruals on change in sales and property, plant and equipment as discretionary accruals proxy.

$$\%DA_{jt} = \frac{TA_{jt}}{Assets_{jt-1}} - (\hat{\alpha}_0 \frac{1}{Assets_{jt-1}} + \hat{\beta}_1 \frac{\Delta Sales_{jt}}{Assets_{jt-1}} + \hat{\beta}_2 \frac{PPE_{jt}}{Assets_{jt-1}}) \quad (11)$$

Where: Hats are the estimated coefficients from regression in the Eq.2.

The other modified Jones model suggested by Kothari, Leone, and Wasley (2005) which include lagged of return on assets, ROA, in the regression. They suggest that

$$\frac{TA_{jt}}{Assets_{jt-1}} = \alpha_0 \frac{1}{Assets_{jt-1}} + \beta_1 \frac{\Delta Sales_{jt}}{Assets_{jt-1}} + \beta_2 \frac{PPE_{jt}}{Assets_{jt-1}} + \beta_3 ROA_{jt-1} + \varepsilon_{jt}$$

$$(12)$$

Where: ROA_{jt-1} is lagged of returns on assets of firm j.

Discretionary accruals as a fraction of assets or $\%DA_{jt}$ are defined as

$$\%DA_{jt} = \frac{TA_{jt}}{Assets_{jt-1}} - (\hat{\alpha}_0 \frac{1}{Assets_{jt-1}} + \hat{\beta}_1 \frac{\Delta Sales_{jt} - \Delta Receivables_{jt}}{Assets_{jt-1}} +$$

$$\hat{\beta}_2 \frac{PPE_{jt}}{Assets_{jt-1}} + \hat{\beta}_3 ROA_{jt-1}) \quad (13)$$

Where: Hats are the estimated coefficients from regression in Eq.12.

CHAPTER IV

RESULTS AND DISCUSSION

4.1 Summary Statistics

Table 1 provides summary statistics on the accruals, firm performance, corporate governance and compensation. Discretionary accruals as a fraction of total assets are residuals between total accruals and the predicted accruals by the modified Jones model (non-discretionary accruals). The estimated coefficients using to calculate discretionary accruals are shown in appendix A. The discretionary accruals change from time to time and at some point must be reversed in the long run. Since the reversal, average value of discretionary accruals shall close to zero, the mean value of discretionary accruals in my sample is 0.24 percent of total assets and its average absolute value is 7.45 percent of total assets.

I measure the firm performance in two ways, reported performance and unmanaged performance (i.e., the impact of discretionary accruals are adjusted from the reported firm performance). The average reported performance, earnings before interest and taxes as a fraction of total asset, is 8.54%. While the mean of unmanaged performance, EBIT/total assets - %DA, is 8.30%.

On average, the amount of shares which institutional investor firms hold is 8.71% of the company shares, while the directors and executive officers own a numerous amount, 15.92% of shares, in their firm. The average member of boards of directors in each company is approximately 11 members, consist of 4 independent directors. The mean of CEO's age is 57.84 years and the average years in position is

10.34 years. The percentage of companies which CEO also holds position of the chairman of the board is 25.09% of the sample.

The average cash compensation paid to all executive officers and independent directors are 33,833,290 Baht and 2,356,775 Baht, respectively. In average, cash compensation of both executive officers and independent directors are increased every year. The average of change in cash compensation as a fraction of previous year is 0.0786 or 7.86% for executive officers and 0.1523 or 15.23% for the independent directors.

Table 1 Summary Statistic

This table presents descriptive statistics for all variables. The total firms in the sample are 217 firms in the period 2005-2013 or 1953 firm-year observations. In order to reduce the effects from outliers, all variables are winsorized at the 1% and the 99% of the empirical distribution. The financial data of each firms are obtained from SETSMART while firms' characteristic, governance and compensation are obtained from 56-1 form.

Variables	Mean	Median	Std. Dev.	Maximum	Minimum
%DA (Discretionary accruals/Assets)	0.002418	-0.00188	0.108813	0.433268	-0.33802
Absolute value of %DA	0.074536	0.049602	0.079295	0.433268	0.000019
EBIT/Assets	0.085423	0.085033	0.100019	0.409224	-0.28319
EBIT/Assets - %DA	0.083005	0.079074	0.124536	0.676782	-0.51664
Total assets (thousands of Baht)	13,703,421	3,627,312	32,200,748	237,000,000	164,867
Percentage of shares owned by institutional investors	8.71581	4.38	11.18554	53.43	0
Percentage of shares owned by executive officers and directors	15.92262	7.71	18.24758	67	0
Number of directors on board	11.01792	11	2.663734	19	6
Number of independent directors on board	3.968254	4	1.133513	11	3
Fraction of independent directors	0.369356	0.357143	0.093736	0.666667	0.166667
CEO Duality	0.250896	0	0.43364	1	0

Variables	Mean	Median	Std. Dev.	Maximum	Minimum
Age of CEO (years)	57.84383	58	9.465949	81	35
Tenure (years)	10.34359	8	8.416109	38	1
Cash compensation of executive officers (hundred thousands of Baht)	338.3329	233.26	320.2619	1832.736	26.6
Cash compensation of independent directors (hundred thousands of Baht)	23.56775	14.04193	28.84317	166.1	0.7
Fraction of change in executive officers' compensation	0.078616	0.05	0.273117	1.243954	-0.55168
Fraction of change in independent directors' compensation	0.152288	0.010809	0.502791	3.148818	-0.699

4.2 Results for Earnings management

The results of the regression on earnings management are provided in table 2 and table 3. Table 2 presents panel regression allowing for the firm fixed effects, while Fama-MacBeth (1973) style regression is presented in the table 3. The results in table 2 point out that coefficient for all variables are insignificant different from zero except for the natural log of CEO age and fraction of change in independent director cash compensation. The coefficient of natural log of CEO age is approximately 0.0906 and statistically significant at better 1% level.

The coefficient on fraction of change in independent director cash compensation is -0.007 and statistically significant at better than 5% level which is contrast to the hypothesis and also the previous work (Ye, 2014). The result suggests that the rise of independent cash compensation predicts less absolute value of discretionary accruals as a fraction of total assets which may imply that increasing independent director pay

is an incentive for independent directors to monitor the use of earning management. In contrast, the change in cash compensation of executive team compare to previous year has a negative effect on absolute value of discretionary accruals, however, the outcome of the variables show that they are insignificant. Due to the difference of characteristics and regulations in the Thai stock market, the outcomes of this study are different and the results from previous studies are not hold.

Table 2 Determinants of discretionary accruals[1]

The dependent variable is absolute value of discretionary accruals as a percent of total assets. Discretionary accruals are predicted from the modified Jones model, Eq. (3). In order to reduce the effects from outliers, all variables are winsorized at the 1% and the 99% of the empirical distribution. The sample period is 2006 to 2013. Number of observations is 1736. To estimate the coefficients of the regression model, panel regression with firm fixed effect is applied.

$$
\begin{aligned}
\left|\%DA_{jt}\right| = {}& \alpha + \beta_1 InstiOwner_{jt-1} + \beta_2 Shares_{jt-1} + \beta_3 FIndepen_{jt-1} + \beta_4 CEODual_{jt} \\
& + \beta_5 BoardSize_{jt} + \beta_6 \ln(CEOAge)_{jt} + \beta_7 \ln(CEOTenure)_{jt} \\
& + \beta_8 \ln(Asset)_{jt-1} + \beta_9 \Delta CashComEx_{jt-1} + \beta_{10} \Delta CashComIn_{jt-1} + \varepsilon_{jt}
\end{aligned}
$$

Explanatory Variable	Coefficient	Std. Error
Percentage of shares owned by institutional investors (lagged one year)	0.000104	0.00035
Percentage of shares owned by executive officers and directors (lagged one year)	0.000149	0.000342
Fraction of independent directors (lagged one year)	-0.03581	0.029789
CEO Duality	0.004671	0.010356
Number of directors on board	0.00118	0.001483
Natural log of CEO age	0.090639***	0.029104
Natural log of CEO tenure	-0.00443	0.003798
Natural log of total assets (lagged one year)	-0.00584	0.006153
Fraction of change in executive officer compensation (lagged one year)	-0.00664	0.006276

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[1] The correlation matrix of independent variables is shown in appendix c.

Explanatory Variable	Coefficient	Std. Error
Fraction of change in independent director compensation (lagged one year)	-0.007**	0.003458
Adjusted R-square	29.37%	
Firm fixed effect F-statistic	4.1923***	

***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

The problem with panel regression is the possibility of the biased standard errors due to the within-firm autocorrelation. The Fama-MacBeth approach can eliminate these problem. Table 3, using the Fama-MacBeth approach, is presented results of the coefficient on the change in executive officer cash compensation is approximately 0.008167. The sign of this coefficient is consistent with the hypothesis, however, it is not significantly different from zero at any standard confidence levels. In contrast with the work of Ye (2014), there are no sufficient evidences to support the relation between independent cash compensation and earnings management.

Other variables, some of corporate governance characteristics, also significant at better than 10% level. Percentage of executive officer and director ownership also help reducing the use of earnings management. Its coefficient is approximately -0.00025 and significant at better than 5% level. However, this coefficient doesn't large enough to have the economic impact on discretionary accruals. A Number of directors on board also help to reduce earnings management but doesn't have economic impact (coefficient is -0.00166). The age of CEO and experience in firms also associate with lower use of discretionary accruals (coefficients are approximately -0.0442 and -0.00299, respectively).

Table 3 Determinants of discretionary accruals (Fama-MacBeth (1973) approach)

The dependent variable is absolute value of discretionary accruals as a percent of total assets. Discretionary accruals are predicted from the modified Jones model, Eq. (3). In order to reduce the effects from outliers, all variables are winsorized at the 1% and the 99% of the empirical distribution. The sample period is 2006 to 2013. Number of observations is 1736. To estimate the coefficients of the regression model, the Fama-MacBeth (1973) approach regression is applied.

$$\left|\%DA_{jt}\right| = \alpha + \beta_1 InstiOwner_{jt-1} + \beta_2 Shares_{jt-1} + \beta_3 FIndepen_{jt-1} + \beta_4 CEODual_{jt}$$
$$+ \beta_5 BoardSize_{jt} + \beta_6 \ln(CEOAge)_{jt} + \beta_7 \ln(CEOTenure)_{jt}$$
$$+ \beta_8 \ln(Asset)_{jt-1} + \beta_9 \Delta CashComEx_{jt-1} + \beta_{10} \Delta CashComIn_{jt-1} + \varepsilon_{jt}$$

Explanatory Variable	Coefficient	Std. Error
Percentage of shares owned by institutional investors (lagged one year)	0.000084	0.000312
Percentage of shares owned by executive officers and directors (lagged one year)	-0.00025**	0.000079
Fraction of independent directors (lagged one year)	0.025913	0.021432
CEO Duality	0.001482	0.003989
Number of directors on board	-0.00166**	0.000639
Natural log of CEO age	-0.04415***	0.006777
Natural log of CEO tenure	-0.00299*	0.001328
Natural log of total assets (lagged one year)	-0.00428***	0.00092
Fraction of change in executive officer cash compensation (lagged one year)	0.004539	0.005697
Fraction of change in independent director cash compensation (lagged one year)	-0.00042	0.002466
Average R-square	5.46%	

***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively

4.3 Results for Firm financial performance

The results on reported firm financial performance are presented in table 4. Reported performance, EBIT/Assets, is represented as the managed performance, since EBIT reflect accruals. The previous study of Jaithita (2010) finds a positive relationship between boards and executive's compensation and firm performance from the listed firms in SET. Results from the table 4 only suggest significant positive relation between a change in executive officer compensation as a fraction of previous year and future reported performance. The coefficient are 0.01995 from panel regression, 0.03111 from Fama-MacBeth (1973) approach and significant at better than 1% level, respectively. The economic impact of the change in cash compensation cannot be denied. The regression coefficient implies that an increase of one standard deviation of the sample in fraction of change in executive officer cash compensation, would increase firm performance by 0.54% and 0.85% of the total assets, respectively. The coefficients on change in independent director cash compensation as a fraction of previous year compensation are not significantly different from zero at any standard confidence level.

The number of directors on board also improve the performance, its coefficients from panel regression is 0.0058 and significant at better than 1% level.

Table 4 Determinants of reported performance

The dependent variable is EBIT/Assets. In order to reduce the effects from outliers, all variables are winsorized at the 1% and the 99% of the empirical distribution. The sample period is 2006 to 2013. Number of observations is 1736. The Column 1 regression is estimated as a panel regression, with fixed firm effects. Column 2 Fama-MacBeth (1973) regression is applied. Standard errors are in parentheses.

$$\frac{EBIT_{jt}}{Assets_{jt}} = \alpha + \beta_1 InstiOwner_{jt-1} + \beta_4 Shares_{jt-1} + \beta_5 FIndepen_{jt-1} + \beta_6 StockReturn_{jt-1} + \beta_7 CEODual_{jt}$$

$$+ \beta_6 BoardSize_{jt} + \beta_7 \ln(CEOAge)_{jt} + \beta_8 \ln(CEOTenure)_{jt} + \beta_9 \ln(Asset)_{jt-1}$$

$$+ \beta_{10} \Delta CashComEx_{jt-1} + \beta_{11} \Delta CashComIn_{jt-1} + \varepsilon_{jt}$$

Explanatory Variable	Panel Regression	Fama-MacBeth Regression
Percentage of shares owned by institutional investors(lagged one year)	-0.000296 (0.000372)	0.001447*** (0.000251)
Percentage of shares owned by executive officers and directors (lagged one year)	0.000822** (0.000365)	0.000483*** (0.000122)
Fraction of independent directors (lagged one year)	0.056989* (0.031722)	0.005648 (0.029298)
Market-adjusted return (lagged one year)	0.023133*** (0.00277)	0.086146*** (0.013187)
CEO Duality	-0.001986 (0.011021)	-0.012182*** (0.006158)
Number of directors on board	0.005783*** (0.001579)	0.002143* (0.000924)
Natural log of CEO age	0.050897 (0.030992)	0.063819*** (0.008495)
Natural log of CEO tenure	-0.001327 (0.004045)	0.003604 (0.003158)
Natural log of total assets (lagged one year)	-0.01711*** (0.006572)	0.003372 (0.00242)
Fraction of change in executive officer cash compensation (lagged one year)	0.019953*** (0.006682)	0.031108*** (0.008846)
Fraction of change in independent director cash compensation (lagged one year)	-0.002174 (0.003681)	0.004168 (0.005242)

Explanatory Variable	Panel Regression	Fama-MacBeth Regression
Adjusted R-square (Average R-square for Fama-Macbeth)	50.22%	22.16%
Firm fixed effect *F*-statistic	8.7097***	

***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

The dependent variable in table 5 is unmanaged firm performance which computed by EBIT/Assets minus discretionary accruals/Assets. In contrast with the second hypothesis, the impact of change in executive officer cash compensation on performance after adjusted with earnings management does not disappear. The coefficients are around 0.0247 in panel regression and 0.0184 in Fama-MacBeth (1973) style regression. Together with the results from regression on earnings management, it can imply that rising in executive officer cash compensation are not related with earnings management and it is purely a motivation for executive officers to perform their best in behalf of shareholders.

The coefficient on the change in independent director cash compensation from panel regression has a negative sign, however, there are not enough evidences to support relation between independent director cash compensation as a fraction of previous year compensation and performance similarly as shown in table 4.

Table 5 Determinants of unmanaged performance

The dependent variable is (EBIT/Assets - %DA). Discretionary accruals are predicted from the modified Jones model, Eq. (3). In order to reduce the effects from outliers, all variables are winsorized at the 1% and the 99% of the empirical distribution. The sample period is 2006 to 2013. Number of observations is 1736. The Column 1 regression is estimated as a panel regression, with fixed firm effects. Column 2 Fama-MacBeth (1973) regression is applied. Standard errors are in parentheses.

$$\frac{EBIT_{jt}}{Assets_{jt}} - \%DA_{jt} = \alpha + \beta_1 InstiOwner_{jt-1} + \beta_2 Shares_{jt-1} + \beta_3 FIndepen_{jt-1} + \beta_4 StockReturn_{jt-1}$$
$$+ \beta_5 CEODual_{jt} + \beta_6 BoardSize_{jt} + \beta_7 \ln(CEOAge)_{jt} + \beta_8 \ln(CEOTenure)_{jt} + \beta_9 \ln(Asset)_{jt-1}$$
$$+ \beta_{10} \Delta CashComEx_{jt-1} + \beta_{11} \Delta CashComIn_{jt-1} + \varepsilon_{jt}$$

Explanatory Variable	Panel Regression	Fama-MacBeth Regression
Percentage of shares owned by institutional investors(lagged one year)	0.000345 (0.00048)	0.001216** (0.00035)
Percentage of shares owned by executive officers and directors (lagged one year)	-0.0000884 (0.00047)	0.000374*** (0.00009)
Fraction of independent directors (lagged one year)	0.041295 (0.040898)	-0.056676 (0.051075)
Market-adjusted return (lagged one year)	0.019436*** (0.003572)	0.039801*** (0.00357)
CEO Duality	-0.004952 (0.014209)	-0.019812** (0.005834)
Number of directors on board	0.004649** (0.002035)	0.000929 (0.00077)
Natural log of CEO age	-0.040737 (0.039957)	0.071058*** (0.008539)
Natural log of CEO tenure	0.002129 (0.005214)	0.000487 (0.002174)
Natural log of total assets (lagged one year)	0.004027 (0.008473)	0.005732** (0.002179)
Fraction of change in executive officer compensation (lagged one year)	0.024733*** (0.008614)	0.018414* (0.008173)

Explanatory Variable	Panel Regression	Fama-MacBeth Regression
Fraction of change in independent director compensation (lagged one year)	0.000672 (0.004746)	0.008238 (0.007506)
Adjusted R-square (Average R-square for Fama-Macbeth)	44.97%	7.88%
Firm fixed effect F-statistic	7.2465***	

***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

4.4 Results on Event study

This study uses event study methodology to measure the stock price's abnormal effect. Assuming the market participators are rational, the impacts and effects of an event will reflect on the price changes. Separating firms in to two portfolios, the first is firms that increase compensation and increase in discretionary accruals (UP). There are 297 firms in the UP portfolio. Second portfolio, contained 274 firms, is the firms that increase compensation and decrease in discretionary accruals (DOWN). These results capture the announcement effect of cash compensation and discretionary accruals, the event day is the day that form 56-1 is publicly announced. The daily average abnormal return (AAR) and the cumulative average abnormal (CAAR) of each groups are presented in Table 10 which illustrates AAR and CAAR over the twenty days surrounding the announcement dates.

There are not enough evidences to support the third hypothesis. From the figure 1, the cumulative average abnormal return of the firms that increased both cash compensation and discretionary accruals compare to the previous year (CAAR up) and the cumulative average abnormal return of the firms that increased cash compensation

but decreased discretionary accruals compare to the previous year (CAAR down) do not show any market reaction as hypothesize around the event day. From the table 10, the CAAR of three portfolio around the event day, [-1,+1], are not significantly different from zero at any standard confident level.

Figure 1 Daily cumulative abnormal return around the form 56-1 announcement date.
CAAR up (297 observations) represents the cumulative average abnormal return of the firms that increase cash compensation and increase discretionary accruals compare to the previous year. CAAR down (274 observations) represents cumulative average abnormal return of the firms that increase cash compensation but decrease discretionary accruals compare to the previous year. CAAR all (571 observations) is a portfolio contain both firms in CAAR up and CAAR down.
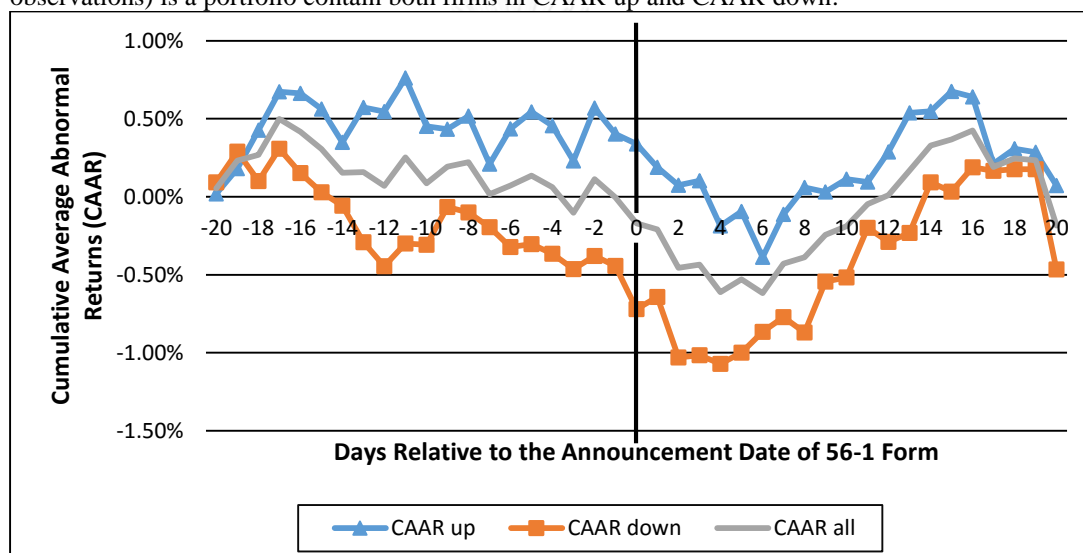
Table 6 Performance Measures for Days Surrounding form 56-1 Announcement Date.
CAAR up (297 observations) represents the cumulative average abnormal return of the firms that increase cash compensation and increase discretionary accruals compare to the previous year. CAAR down (274 observations) represents cumulative average abnormal return of the firms that increase cash compensation but decrease discretionary accruals compare to the previous year. CAAR all (571 observations) is a portfolio contain both firms in CAAR up and CAAR down. Significant measurements (at least at the 10% level) are indicated in bold

Day relative to event date	AAR all	CAAR all	AAR up	CAAR up	AAR down	CAAR down
-20	0.05%	0.05%	0.02%	0.02%	0.09%	0.09%
-19	0.18%	0.23%	0.16%	0.18%	0.20%	0.29%
-18	0.04%	0.27%	**0.25%**	0.43%	-0.19%	0.10%
-17	0.23%	**0.50%**	0.25%	**0.67%**	0.21%	0.31%
-16	-0.08%	**0.42%**	-0.01%	**0.66%**	-0.16%	0.15%
-15	-0.11%	0.31%	-0.10%	0.56%	-0.12%	0.03%
-14	-0.15%	0.15%	-0.21%	0.35%	-0.09%	-0.06%

Day relative to event date	AAR all	CAAR all	AAR up	CAAR up	AAR down	CAAR down
-13	0.00%	0.16%	0.22%	0.57%	-0.23%	-0.29%
-12	-0.09%	0.07%	-0.03%	0.54%	-0.15%	-0.45%
-11	0.18%	0.25%	0.22%	0.76%	0.15%	-0.30%
-10	-0.17%	0.09%	**-0.31%**	0.45%	-0.01%	-0.31%
-9	0.11%	0.19%	-0.02%	0.43%	0.24%	-0.07%
-8	0.03%	0.22%	0.09%	0.52%	-0.04%	-0.10%
-7	**-0.21%**	0.02%	-0.31%	0.21%	-0.09%	-0.19%
-6	0.06%	0.07%	0.22%	0.43%	-0.13%	-0.32%
-5	0.07%	0.14%	0.11%	0.54%	0.02%	-0.30%
-4	-0.07%	0.06%	-0.09%	0.46%	-0.06%	-0.36%
-3	-0.17%	-0.10%	-0.23%	0.23%	-0.10%	-0.46%
-2	**0.22%**	0.11%	**0.34%**	0.57%	0.08%	-0.38%
-1	-0.12%	0.00%	-0.17%	0.40%	-0.06%	-0.44%
0	-0.17%	-0.17%	-0.06%	0.34%	**-0.28%**	-0.72%
1	-0.04%	-0.21%	-0.15%	0.19%	0.08%	-0.64%
2	-0.25%	-0.46%	-0.12%	0.07%	-0.39%	**-1.03%**
3	0.02%	-0.43%	0.03%	0.10%	0.01%	**-1.02%**
4	**-0.18%**	-0.61%	**-0.29%**	-0.19%	-0.06%	**-1.07%**
5	0.08%	-0.53%	0.09%	-0.09%	0.07%	**-1.00%**
6	-0.09%	-0.62%	**-0.29%**	-0.39%	0.13%	-0.87%
7	0.19%	-0.43%	0.28%	-0.11%	0.09%	-0.77%
8	0.04%	-0.39%	0.17%	0.06%	-0.10%	-0.87%
9	0.14%	-0.25%	-0.03%	0.03%	**0.33%**	-0.54%
10	0.06%	-0.19%	0.08%	0.11%	0.03%	-0.52%
11	0.14%	-0.05%	-0.02%	0.09%	**0.32%**	-0.20%
12	0.06%	0.01%	0.19%	0.29%	-0.09%	-0.29%
13	0.16%	0.17%	0.25%	0.54%	0.06%	-0.23%
14	0.16%	0.33%	0.01%	0.55%	**0.32%**	0.09%
15	0.04%	0.37%	0.13%	0.68%	-0.06%	0.03%
16	0.06%	0.42%	-0.03%	0.64%	0.16%	0.19%
17	**-0.23%**	0.19%	**-0.43%**	0.21%	-0.02%	0.17%
18	0.06%	0.25%	0.10%	0.31%	0.01%	0.18%
19	-0.01%	0.23%	-0.02%	0.29%	0.00%	0.18%
20	**-0.42%**	-0.19%	-0.21%	0.07%	-0.64%	-0.47%

4.5 Robustness test

4.5.1 Earnings management proxy

In robustness test, I reexamine equation 4 to 6 by changing the earnings management proxy. There are several models to estimate discretionary accruals, other approaches of discretionary accruals are used to confirm the result of the previous regression, i.e. Jones (1991) and Kothari et al. (2005) which is another model of modified Jones. The discretionary accruals are predicted as shown in equation 11 and equation 13. The estimated coefficients using to calculate discretionary accruals are shown in appendix A to B.

This robustness test confirms the previous results in my study[2]. The results on the change in cash compensation as a fraction of previous year compensation from changing the dependent variable to the discretionary accruals as predicted following Jones (1991) and Kothari et al. (2005) are consistent to the previous results. The change in cash compensation of independent directors has a negative impact on future earnings management. The change in executive officer cash compensation has a positive impact on future firm performance, the effect still appears even after the discretionary accruals are removed from reported performance.

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[2] see appendix D to E

CHAPTER V

CONCLUSIONS AND AREA FOR FUTURE RESEARCH

Earnings management is one of the significant issue to be considered. The recent literatures suggest the increasing use of earnings management due to self-interest from CEOs and independent directors whom should act for the best interest in behalf of shareholders.

I hypothesize that the change in cash compensation of executive officers and independent directors might associate with future earnings management. My second hypothesis is motivated by finding of the positive relation between CEOs' option compensation and firm financial performance which disappears after removing the effect of earnings management from the reported performance. I further investigate whether market react to the change in cash compensation and discretionary accruals around the form 56-1 announcement date.

The analyses in this thesis use panel regressions, Fama-MacBeth style regressions and the event study to find evidences to support hypotheses. The results of the regression show that there is a negative impact of change in independent director cash compensation on the future absolute value of discretionary accruals. It can be imply that with appropriate amount of cash compensation, increasing independent director cash compensation is an incentive for independent directors to perform better role of monitoring and constrain earnings management, in contradiction, decreasing cash compensation might impairs their independence and makes them less effective in financial reporting oversight.

The results also suggest no significant association between executive officer cash compensation and earnings management. The positive impact of the change in executive officer cash compensation does not disappear even the impact of earnings management is removed. Implication of the results is increasing executive officer cash compensation is an incentive to operate firm for the best interest of shareholders. However, earnings management through discretionary accruals may be used for indirect benefits such as job security or future promotions.

The market impact about cash compensation and discretionary accruals on the form 56-1 announcement day is not found. The results in this study are contrast with my hypotheses and also the previous studies of Cornett et al. (2008), Ye (2014) and Shuto (2007). However, the results reinforce previous research of Jaithita (2010) in the finding of a positive relation between compensation of executive and firm performance in Thai listed firms.

The future research area should focus on another factors which may rise the earnings management (e.g. share repurchasing) or reexamine this study with another efficient proxy of earnings management with more firms and longer period when those necessary requirements are available or maybe in other region.

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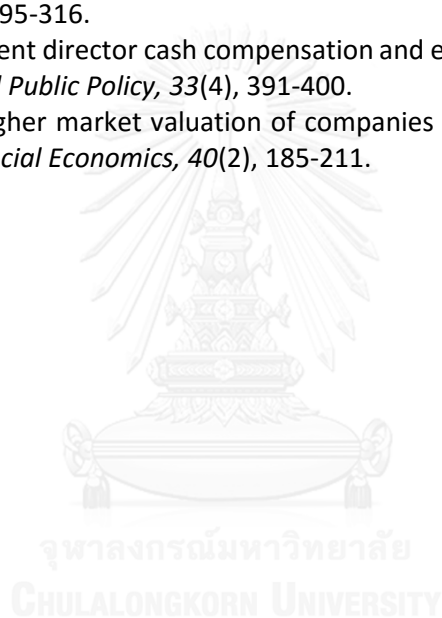
APPENDICES

APPENDIX A

Equation 2 are estimated as panel regression

$$\frac{TA_{jt}}{Assets_{jt-1}} = \alpha_0 \frac{1}{Assets_{jt-1}} + \beta_1 \frac{\Delta Sales_{jt}}{Assets_{jt-1}} + \beta_2 \frac{PPE_{jt}}{Assets_{jt-1}} + \varepsilon_{jt}$$

	Coefficient	Std. Error	t-Statistic	Prob.
α_0	-9108.66	2686.577	-3.39043	0.0007
β_1	-0.00731	0.004286	-1.70462	0.0884
β_2	-0.0639	0.007714	-8.28381	0
R-squared	0.044374			
Adjusted R-squared	0.043504			
S.E. of regression	0.15648			

APPENDIX B

Equation 12 are estimated as panel regression

$$\frac{TA_{jt}}{Assets_{jt-1}} = \alpha_0 \frac{1}{Assets_{jt-1}} + \beta_1 \frac{\Delta Sales_{jt}}{Assets_{jt-1}} + \beta_2 \frac{PPE_{jt}}{Assets_{jt-1}} + \beta_3 ROA_{jt-1} + \varepsilon_{jt}$$

	Coefficient	Std. Error	t-Statistic	Prob.
α_0	-9068.11	2672.971	-3.39252	0.0007
β_1	-0.00919	0.004282	-2.14675	0.0319
β_2	-0.07173	0.007843	-9.14541	0
β_3	0.109229	0.022559	4.841971	0
R-squared	0.054469			
Adjusted R-squared	0.053177			
S.E. of regression	0.155687			

APPENDIX C

	InstiOwner (-1)	Shares (-1)	FIndepen (-1)	CEODual	BoardSize	ln(CEOAge)	ln(CEOTenure)	ln(Asset) (-1)	ΔCashComEx (-1)	ΔCashComIn (-1)
InstiOwner (-1)	1	-0.15163	0.028504	-0.04028	0.059655	-0.09736	-0.03571	0.488906	0.048868	0.003844
Shares (-1)	-0.15163	1	0.052609	0.105149	-0.19282	0.06876	0.175289	-0.17209	0.005906	-0.01491
FIndepen (-1)	0.028504	0.052609	1	-0.07502	-0.3846	-0.17953	0.02619	0.044532	-0.01643	0.014967
CEODual	-0.04028	0.105149	-0.07502	1	-0.12553	0.214792	0.154166	-0.0673	-0.01281	-0.01211
BoardSize	0.059655	-0.19282	-0.3846	-0.12553	1	0.269521	-0.03981	0.282049	0.035667	-0.00281
ln(CEOAge)	-0.09736	0.06876	-0.17953	0.214792	0.269521	1	0.245212	-0.01851	-0.0281	-0.0818
ln(CEOTenure)	-0.03571	0.175289	0.02619	0.154166	-0.03981	0.245212	1	0.030812	0.019591	-0.01994
ln(Asset) (-1)	0.488906	-0.17209	0.044532	-0.0673	0.282049	-0.01851	0.030812	1	0.062024	0.026663
ΔCashComEx (-1)	0.048868	0.005906	-0.01643	-0.01281	0.035667	-0.0281	0.019591	0.062024	1	0.08991
ΔCashComIn (-1)	0.003844	-0.01491	0.014967	-0.01211	-0.00281	-0.0818	-0.01994	0.026663	0.08991	1

APPENDIX D

Table D1

The dependent variable is absolute value of discretionary accruals as a percent of total assets.
Discretionary accruals are predicted from the Jones model, Eq. (11).
The sample period is 2006 to 2013. Number of observations is 1736.

$$\left|\%DA_{jt}\right| = \alpha + \beta_1 InstiOwner_{jt-1} + \beta_2 Shares_{jt-1} + \beta_3 FIndepen_{jt-1} + \beta_4 CEODual_{jt}$$
$$+ \beta_5 BoardSize_{jt} + \beta_6 \ln(CEOAge)_{jt} + \beta_7 \ln(CEOTenure)_{jt}$$
$$+ \beta_8 \ln(Asset)_{jt-1} + \beta_9 \Delta CashComEx_{jt-1} + \beta_{10} \Delta CashComIn_{jt-1} + \varepsilon_{jt}$$

Explanatory Variable	Panel Regression	Fama-MacBeth Regression
Percentage of shares owned by institutional investors(lagged one year)	0.000125 (0.000367)	0.000053 (0.000325)
Percentage of shares owned by executive officers and directors (lagged one year)	0.000118 (0.000359)	-0.00028*** (0.000079)
Fraction of independent directors (lagged one year)	-0.032322 (0.031287)	0.032271 (0.023149)
CEO Duality	0.002782 (0.010877)	0.000911 (0.004067)
Number of directors on board	0.002067 (0.001558)	-0.001551* (0.00067)
Natural log of CEO age	0.102123*** (0.030567)	-0.048602*** (0.007716)
Natural log of CEO tenure	-0.004269 (0.003989)	-0.003122* (0.001382)
Natural log of total assets (lagged one year)	-0.009241 (0.006462)	-0.004902*** (0.000999)
Fraction of change in executive officer compensation (lagged one year)	-0.00735 (0.006592)	0.00422 (0.005688)
Fraction of change in independent director compensation (lagged one year)	-0.007617** (0.003632)	0.000194 (0.003571)

Explanatory Variable	Panel Regression	Fama-MacBeth Regression
Adjusted R-square (Average R-square for Fama-Macbeth)	29.35%	5.63%
Firm fixed effect *F*-statistic	4.1900***	

***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

Table D2

The dependent variable is EBIT/Assets - %DA. Discretionary accruals are predicted from the Jones model, Eq. (11). The sample period is 2006-2013. Number of observations is 1736.

$$\frac{EBIT_{jt}}{Assets_{jt}} - \%DA_{jt} = \alpha + \beta_1 InstiOwner_{jt-1} + \beta_2 Shares_{jt-1} + \beta_3 FIndepen_{jt-1} + \beta_4 StockReturn_{jt-1}$$
$$+ \beta_5 CEODual_{jt} + \beta_6 BoardSize_{jt} + \beta_7 \ln(CEOAge)_{jt} + \beta_8 \ln(CEOTenure)_{jt} + \beta_9 \ln(Asset)_{jt-1}$$
$$+ \beta_{10} \Delta CashComEx_{jt-1} + \beta_{11} \Delta CashComIn_{jt-1} + \varepsilon_{jt}$$

Explanatory Variable	Panel Regression	Fama-MacBeth Regression
Percentage of shares owned by institutional investors(lagged one year)	0.000348 (0.00048)	-0.000265 (0.000438)
Percentage of shares owned by executive officers and directors (lagged one year)	-0.0000893 (0.00047)	0.000312** (0.0001)
Fraction of independent directors (lagged one year)	0.041346 (0.040941)	-0.057295 (0.041545)
Market-adjusted return (lagged one year)	0.019373 (0.003576)	0.037778*** (0.00342)
CEO Duality	-0.004926 (0.014225)	-0.022589** (0.006476)
Number of directors on board	0.004649 (0.002037)	0.000857 (0.00081)
Natural log of CEO age	-0.040944 (0.039999)	0.065284*** (0.007266)
Natural log of CEO tenure	0.002124 (0.00522)	0.002014 (0.00232)
Natural log of total assets (lagged one year)	0.004071 (0.008482)	0.000157 (0.001985)
Fraction of change in executive officer compensation (lagged one year)	0.024745 (0.008623)	0.020660** (0.008052)
Fraction of change in independent director compensation (lagged one year)	0.00067 (0.004751)	0.007579 (0.006952)

Explanatory Variable	Panel Regression	Fama-MacBeth Regression
Adjusted R-square (Average R-square for Fama-Macbeth)	44.90%	8.52%
Firm fixed effect *F*-statistic	7.2292***	

***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

APPENDIX E

Table E1

The dependent variable is absolute value of discretionary accruals as a percent of total assets.
Discretionary accruals are predicted from the modified Jones model, Eq. (13).
The sample period is 2006 to 2013. Number of observations is 1736.

$$|\%DA_{jt}| = \alpha + \beta_1 InstiOwner_{jt-1} + \beta_2 Shares_{jt-1} + \beta_3 FIndepen_{jt-1} + \beta_4 CEODual_{jt}$$
$$+ \beta_5 BoardSize_{jt} + \beta_6 \ln(CEOAge)_{jt} + \beta_7 \ln(CEOTenure)_{jt}$$
$$+ \beta_8 \ln(Asset)_{jt-1} + \beta_9 \Delta CashComEx_{jt-1} + \beta_{10} \Delta CashComIn_{jt-1} + \varepsilon_{jt}$$

Explanatory Variable	Panel Regression	Fama-MacBeth Regression
Percentage of shares owned by institutional investors(lagged one year)	0.000079 (0.000366)	0.000065 (0.00031)
Percentage of shares owned by executive officers and directors (lagged one year)	0.000098 (0.000358)	-0.000240** (0.000082)
Fraction of independent directors (lagged one year)	-0.026015 (0.031184)	0.032689 (0.02197)
CEO Duality	0.001921 (0.010841)	0.000469 (0.003977)
Number of directors on board	0.002113 (0.001553)	-0.001593** (0.000669)
Natural log of CEO age	0.106502*** (0.030466)	-0.045000*** (0.007281)
Natural log of CEO tenure	-0.005067 (0.003976)	-0.004011** (0.001644)
Natural log of total assets (lagged one year)	-0.012134* (0.006441)	-0.00504*** (0.001012)
Fraction of change in executive officer compensation (lagged one year)	-0.007398 (0.00657)	0.004034 (0.006087)
Fraction of change in independent director compensation (lagged one year)	-0.006956* (0.00362)	0.001322 (0.003345)

Explanatory Variable	Panel Regression	Fama-MacBeth Regression
Adjusted R-square (Average R-square for Fama-Macbeth)	29.86%	5.49%
Firm fixed effect F-statistic	4.2680***	

***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

Table E2

The dependent variable is EBIT/Assets - %DA. The sample period is 2006-2013. Discretionary accruals are predicted from the modified Jones model, Eq. (13). Number of observations is 1736.

$$\frac{EBIT_{jt}}{Assets_{jt}} - \%DA_{jt} = \alpha + \beta_1 InstiOwner_{jt-1} + \beta_2 Shares_{jt-1} + \beta_3 FIndepen_{jt-1} + \beta_4 StockReturn_{jt-1}$$
$$+ \beta_5 CEODual_{jt} + \beta_6 BoardSize_{jt} + \beta_7 \ln(CEOAge)_{jt} + \beta_8 \ln(CEOTenure)_{jt} + \beta_9 \ln(Asset)_{jt-1}$$
$$+ \beta_{10}\Delta CashComEx_{jt-1} + \beta_{11}\Delta CashComIn_{jt-1} + \varepsilon_{jt}$$

Explanatory Variable	Panel Regression	Fama-MacBeth Regression
Percentage of shares owned by institutional investors(lagged one year)	0.000329 (0.000485)	0.001383*** (0.000362)
Percentage of shares owned by executive officers and directors (lagged one year)	-0.0000426 (0.000475)	0.000446*** (0.000096)
Fraction of independent directors (lagged one year)	0.044134 (0.041337)	-0.059003 (0.052685)
Market-adjusted return (lagged one year)	0.018477*** (0.00361)	0.041535*** (0.004405)
CEO Duality	-0.005408 (0.014362)	-0.020297** (0.006215)
Number of directors on board	0.005466*** (0.002057)	0.001045 (0.000777)
Natural log of CEO age	-0.04119 (0.040386)	0.077905*** (0.009633)
Natural log of CEO tenure	0.00194 (0.00527)	0.000874 (0.002217)
Natural log of total assets (lagged one year)	0.007366 (0.008564)	0.006308** (0.002267)
Fraction of change in executive officer compensation (lagged one year)	0.025389*** (0.008707)	0.019942* (0.008687)
Fraction of change in independent director compensation (lagged one year)	0.002043 (0.004797)	0.010277 (0.007339)

Explanatory Variable	Panel Regression	Fama-MacBeth Regression
Adjusted R-square (Average R-square for Fama-Macbeth)	47.45%	8.57%
Firm fixed effect *F*-statistic	7.9009***	

***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

VITA

Pongsatorn Dankul was born on December 30, 1989 in Nakhon Ratchasima, Thailand. He graduated the undergraduate level from Chulalongkorn University in Bachelor of Laws in May 2013. After completing the bachelor's degree, he then decided to study in Master of Science in Finance Program at Chulalongkorn University as a full-time student in June 2013.

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