

ความสัมพันธ์ระหว่างการกำกับดูแลกิจการกับความเสี่ยงจากการลงทุนในหลักทรัพย์

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THE ASSOCIATION BETWEEN CORPORATE GOVERNANCE MECHANISMS
AND STOCK INVESTMENT RISK THROUGH ACCRUALS QUALITY:
EMPIRICAL EVIDENCE FROM THAILAND

Mr.Panya Issarawornrawanich

A Dissertation Submitted in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy Program in Accountancy

Department of Accountancy

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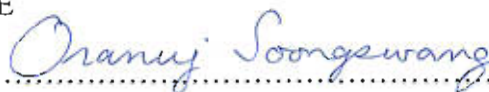
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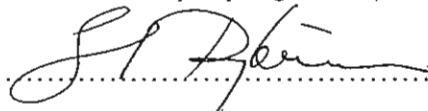
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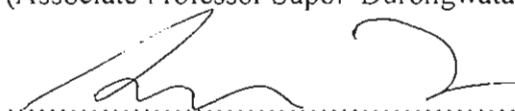
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ปัญญา อิศระวรวานิช : ความสัมพันธ์ระหว่างการกำกับดูแลกิจการกับความเสี่ยงจากการลงทุนในหลักทรัพย์ผ่านคุณภาพของรายการคงค้าง: หลักฐานเชิงประจักษ์จากประเทศไทย (THE ASSOCIATION BETWEEN CORPORATE GOVERNANCE MECHANISMS AND STOCK INVESTMENT RISK THROUGH ACCRUALS QUALITY: EMPIRICAL EVIDENCE FROM THAILAND)
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งานวิจัยนี้ได้ทำการศึกษาความสัมพันธ์ระหว่างการกำกับดูแลกิจการกับความเสี่ยงจากการลงทุนในหลักทรัพย์ผ่านคุณภาพของรายการคงค้างในช่วงระยะเวลา พ.ศ. 2550 ถึง พ.ศ. 2552 ของบริษัทจดทะเบียนในตลาดหลักทรัพย์ที่ไม่ใช่บริษัทสถาบันการเงินในประเทศไทย โดยใช้การวิเคราะห์ความถดถอยเชิงพหุ การกำกับดูแลกิจการประกอบด้วย ค่าดัชนีการกำกับดูแล การถือหุ้นของครอบครัว การถือหุ้นของนักลงทุนสถาบัน ค่า Herfindahl index ค่าอัตรากำไรต่อยอดขาย ปรับด้วยค่าเฉลี่ยอุตสาหกรรม และจำนวนข่าวสารที่ออกทางสื่อ ความเสี่ยงจากการลงทุนในหลักทรัพย์หมายถึง ความเสี่ยงที่ไม่เป็นระบบและความเสี่ยงรวม นอกจากนี้การศึกษานี้ใช้ตัววัดคุณภาพของข้อมูลทางการบัญชี คือ คุณภาพของรายการคงค้างเป็นตัวแปรสื่อผ่าน

ผลการวิจัยแสดงว่ากิจการที่คุณภาพรายการคงค้างสูงจะมีความเสี่ยงที่ไม่เป็นระบบและความเสี่ยงรวมที่ลดลงและคุณภาพของรายการคงค้างเป็นตัวแปรสื่อผ่านความสัมพันธ์ระหว่างการกำกับดูแลกิจการกับความเสี่ยงจากการลงทุนในหลักทรัพย์ กิจการที่มีค่าดัชนีการกำกับดูแลที่เพิ่มขึ้นและสัดส่วนการถือหุ้นของครอบครัวที่เพิ่มขึ้น จะมีคุณภาพของรายการคงค้างสูงและมีความเสี่ยงจากการลงทุนในหลักทรัพย์ลดลง การวิจัยนี้ยังพบว่ากิจการที่มีสัดส่วนการถือหุ้นของนักลงทุนสถาบันที่สูงจะมีความเสี่ยงจากการลงทุนในหลักทรัพย์ของกิจการลดลง นอกจากนี้ ผลการวิจัยแสดงว่ากิจการที่มีอำนาจทางการตลาดที่สูงกว่ามีคุณภาพของรายการคงค้างมากกว่ากิจการที่อยู่ในตลาดที่มีการแข่งขันสูง กิจการที่มีอำนาจทางการตลาดที่สูงจะมีความเสี่ยงจากการลงทุนในหลักทรัพย์ของกิจการลดลง สุดท้ายกิจการที่มีจำนวนข่าวที่มากขึ้นมีคุณภาพของรายการคงค้างลดลงและความเสี่ยงจากการลงทุนในหลักทรัพย์สูงขึ้น

โดยภาพรวมของการวิจัยแสดงให้เห็นว่าการกำกับดูแลกิจการมีความสัมพันธ์โดยตรง ทำให้ความเสี่ยงจากการลงทุนในหลักทรัพย์ของกิจการลดลง และมีผลทางอ้อมในการลดความเสี่ยงจากการลงทุนในหลักทรัพย์ผ่านการมีคุณภาพของข้อมูลทางการบัญชีที่สูงขึ้น คือคุณภาพของรายการคงค้าง

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PANYA ISSARAWORNRAWANICH : THE ASSOCIATION BETWEEN CORPORATE GOVERNANCE MECHANISMS AND STOCK INVESTMENT RISK THROUGH ACCRUALS QUALITY: EMPIRICAL EVIDENCE FROM THAILAND.

ADVISOR : AIM-ORN JAIKENGKIT, Ph.D., 183 pp.

This study investigates the association between corporate governance mechanisms and stock investment risk through accruals quality during the period of 2007 to 2009 of listed non-financial firms in Thailand by using multiple regression analysis. The corporate governance mechanisms consist of corporate governance index, family ownership, institutional ownership, the Herfindahl index, industry-adjusted price-cost margin and media coverage. The stock investment risk defines as idiosyncratic risk and total risk. Besides, this study uses the measure quality of accounting information, i.e. accruals quality as a mediating variable.

The results show that firms with higher accruals quality have lower idiosyncratic risk and total risk, and that accruals quality is a mediating variable between corporate governance mechanisms and stock investment risks. Firms with increased corporate governance index and family ownership concentration have higher accruals quality and lower stock investment risk. This study also indicates firm with higher proportion of institutional investors have lower stock investment risk. Besides, the results show that firms enjoying higher market power have higher accruals quality than firms in competitive product market. Firms with higher marker power have lower stock investment risk. Finally, firms with more media coverage have lower accruals quality and higher stock investment risk.

Overall, these results show that corporate governance mechanisms directly decrease the stock investment risk and indirectly decrease stock investment risk through the higher quality of accounting information, i.e. accruals quality.

Department : Accountancy..... Student's Signature

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

Academic Year : 2011.....

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CHAPTER I

INTRODUCTION

1.1 INTRODUCTION

The agency theory postulates that a firm consists of a nexus of contracts between owners of economic resources and managers who are charged with using and controlling those resources. The separation of principals (the owners) and agents (the managers) causes the agency problems and information asymmetry (Jensen and Meckling, 1976). The conflict of interest between shareholders and corporate managers implies an incentive and opportunity for managers to manage earnings upward or downward for a given purpose (i.e., bonus plan, debt covenant, political cost, and capital market incentive). Prior research about the capital market consequence of earnings management shows that investors are not deceived by earnings management and that financial statements provide useful information to investors (Teoh, Wong, and Rao, 1998; Teoh, Welch, and Wong, 1998a, 1998b). This implies that adverse selection problems of investors may occur due to the moral hazards of corporate managers in managing earnings.

Based on the agency theory, agency problems and information asymmetry can be minimized by corporate governance mechanisms. The corporate governance mechanisms can improve accruals quality by monitoring the firm's financial reporting process and taking an active, interventionist role in the firm's economic processes.

The corporate governance mechanisms can be categorized as internal corporate governance, ownership structure, and external corporate governance. First, internal corporate governance mechanisms, such as board characteristics and managerial compensation, are created in the early stage of the firm's life. To constrain executive behavior, firms make optimal governance choices conditional on their economic environment. Second, ownership structure, such as controlling shareholders and institutional owners, can interfere in the corporate governance system of a firm due to their incentive to protect their interest and thus reduce agency problems by closely monitoring the behavior of management. Finally, external corporate governance mechanisms encompass the controls that external stakeholders exercise over the organization, such as market for corporate control, product market competition, and media pressure. External corporate governance can be a substitute for the internal corporate governance mechanisms which are less effective compared to the former.

Even before investors make decision to invest in any business, they want to be assured that the business has good financial performance and can operate on the going concern basis. The Organisation for Economic Cooperation and Development (OECD) shows that corporate governance is an important step to building market confidence and encouraging more stable, long-term international investment flows (OECD, 1999: 26). Firms benefit from adopting the recommended governance policies, such as better access to external finance and higher stock market valuation (Black, Jang and Kim, 2006). However, the association between corporate governance mechanisms and stock investment risk is unclear in investors' viewpoints because the

investors cannot observe the good corporate governance as directly and easily as the quality of accounting information which they use in valuing stocks and making decisions. Accruals quality is most likely to capture the degree of firm specific information in earnings. In addition, Francis et al. (2004) note that accruals quality has the largest impact on reducing cost of capital among seven earnings attributes, i.e. accruals quality, persistence, predictability, smoothness, value relevance, timeliness, and conservatism.

In conclusion, the agency theory views that agency problems and information asymmetry can be minimized by corporate governance mechanisms. Accruals quality affects multiple aspects of a firm's information environment and different informational aspects have different effects on stock investment risk. More precise information and decreased information asymmetry reduce idiosyncratic risk and total risk. Therefore, the association between corporate governance mechanisms and stock investment risk can be clearly observed through the quality of accounting information, i.e., accruals quality.

This study examines the association between corporate governance mechanisms and stock investment risk through the quality of accounting information during the period of 2007 to 2009 of listed non-financial firms in Thailand. Data used in this study are retrieved from the SET Market Analysis and Reporting Tool (SETSMART) database, DataStream database and the NEWSCENTER database. The measure of accruals quality is employed in the study: standard deviation of accruals quality.

The results show that firms with higher accruals quality have lower idiosyncratic risk and total risk, and that accruals quality is a mediating variable between corporate governance mechanisms and stock investment risks. Consistent with prior studies suggest that firms with poor earnings quality have higher idiosyncratic volatility (Rajgopal and Venkatachalam, 2009; Shan, Taylor and Walter, 2009). Firms with increased corporate governance index and family ownership concentration have higher accruals quality and lower stock investment risk. This finding is consistent with the alignment effect in the agency theory (Jensen and Meckling, 1976). The alignment effect is based on the notion that the interests of controlling shareholders and minority shareholders are more aligned because of the large blocks of stocks owned by controlling shareholders and their long-term presence. This study also indicates firm with higher proportion of institutional investors have lower stock investment risk. Long-term oriented institutional investors might increase firm value through their influence in managerial decision (Holderness and Sheehan, 1985; Barclay and Holderness, 1991). Besides, the results show that firms enjoying higher market power have higher accruals quality than firms in competitive product market. . This is consistent with prior study which suggests that firms in highly competitive are prone to manipulate earnings (Zhou, 2000). The results also illustrates that firms with higher market power have lower stock investment risk. This is consistent with prior study that firms enjoying high market power have lower return volatilities (Gaspar and Massa, 2006). Finally, firms with more media coverage have lower accruals quality and higher stock investment risk. Media coverage directly influences a firm's performance and managerial behavior. Media attention could affect reputations of managers and board members in the eyes

of shareholders and future employers. Thus, managers may have incentive to manipulate earnings in order to meet or beat earnings forecast or their news releases.

All in all, the results show that good corporate governance mechanisms, i.e. higher corporate governance index, higher family ownership, higher institutional ownership, higher Herfindahl index and higher industry-adjusted price-cost margin, decrease the stock investment risk directly and through the higher quality of accruals indirectly. Nevertheless, firms with higher media coverage increase the stock investment risk directly and through poor accruals quality indirectly.

1.2 MOTIVATION

The role of corporate governance mechanisms in Thailand have become increasingly important to investors and executives, especially companies in Thailand which need funding from investors in order to expand and grow their business. To respond to the efficient allocation of capital in the international financial market, the Stock Exchange of Thailand (SET) has actively promoted corporate governance principles. During 1997-1998, the SET issued “The Code of Best Practice for Directors of Listed Companies” and “The Best Practice Guideline for the Audit Committee”. In 1999 the SET set a requirement for all listed firms to have an audit committee with at least three independent members. Furthermore, the SET proposed fifteen principles of good corporate governance. Starting from the accounting period ending December 31, 2002, all listed firms are required to disclose, in their annual registration forms (Form 56-1) and annual reports, how they apply the fifteen principles. If they choose not to apply any principles, they are required to provide

justification. Besides, in 2005 Thailand underwent a corporate governance assessment by the World Bank under the Corporate Governance Report on the Observance of Standards and Codes (CG-ROSC). The results indicate that Thailand's observance of international practices of corporate governance is approximately 69%. In 2006 the SET revised the principles of Good Corporate Governance to improve the corporate governance in Thailand.

Prior research posits that corporate governance effects firm performance, firm value or stock price (Mitton, 2002; Gompers, Ishii and Metrick, 2003; Cremers and Naire, 2005), the accounting information quality (Chtourou, Bedard, and Courteau, 2001), and idiosyncratic risk (Durnev, Morck and Yeung, 2004, Durnev and Kim, 2005; Gaspar and Massa, 2006; Ferreira and Laux, 2007; John, Litov and Yeung, 2008). However, research on how the internal corporate governance, ownership structure and external corporate governance effect stock investment risk remains scarce. This study intends to investigate the direct effects of corporate governance mechanisms, i.e. internal corporate governance, ownership structure, and external corporate governance, on stock investment risk.

Recent theoretical work by Lambert, Leuz, and Verrechia (2007) suggests that accounting information is not an independent risk factor while accruals quality has a high contemporaneous correlation with a variety of risk measures that are economically important. Accruals quality is also a determinant of the equity cost of capital (Francis, LaFond, Olsson, and Schipper 2005). As accruals quality increases, firm specific information becomes more precise and decreases information

asymmetry. Thus, the stock investment risks decrease. However, there is no study on the relation of corporate governance to firms' risk which is mediated by the accounting information quality, i.e. accruals quality. Thus, this is the first study that investigates the effect of corporate governance mechanisms on stock investment risk which is mediated by the quality of accounting information. The results will shed some light on the linkage between corporate governance mechanisms and stock investment risk through quality of accounting information.

Some studies suggest that accruals quality may decrease systematic and idiosyncratic volatility (Pastor and Veronesi, 2003; Cohen, 2008; Rajgopal and Venkatachalam, 2009; Shan, Taylor and Walter, 2009). Most of the studies, however, were conducted based on the datasets of the developed markets such as the U.S.A. and Europe, which have a different financial environment from a developing market like Thailand. There is no study of the relation between accruals quality and firms' stock investment risk by using Thai datasets. As a result, this is the first study which investigates the effect of accruals quality on stock investment risk using Thai datasets.

The last intention of this study arises from mixed evidence on studies of internal corporate governance and accounting discretion. Most of the past studies have measured internal corporate governance using specific measures that typically reflect only a single aspect of governance (Chtourou et al., 2001; Klein, 2002; Xie, Davidson and DaDalt, 2003; Peasnell, Pope and Young, 2005). This study is different from others' in that it uses the composite corporate governance index (CGI) developed from the OECD principles and the Code of Best Practices of Thailand (Connelly,

Limpaphayom and Nagarajan, 2008). The corporate governance index captures all five aspects of corporate governance: rights of shareholders, treatment of shareholders, role of stakeholders, disclosure and transparency, and board responsibilities.

In addition, there is no study pertaining to the role of external corporate governance in mitigating the opportunity of management in managing earnings. This is the first study which examines the association between external corporate mechanisms, especially product market competition and media coverage, and accruals quality. The results will shed some light on the role of external corporate governance mechanisms in constraining executive behavior.

1.3 RESEARCH OBJECTIVES

The purposes of this study are as follows:

1. To investigate the effects of corporate governance mechanisms, i.e. internal corporate governance, ownership structure and external corporate governance, on accruals quality.
2. To investigate the effect of accruals quality on firms' stock investment risk, i.e. idiosyncratic risk and total risk.
3. To investigate the direct effect of corporate governance mechanisms on firms' stock investment risk.
4. To investigate the effects of corporate governance mechanisms on firms' stock investment risk through quality of accounting information which is measured by accruals quality.

The results of this study will provide us a better understanding of the effects of corporate governance mechanisms on accruals quality and stock investment risk.

1.4 CONTRIBUTIONS

This study contributes academically to accounting literature, investors, shareholders, auditors, standard setters, regulators and other stakeholders as described below.

First, this study contributes to the corporate governance literature by investigating the overall association between the corporate governance and stock investment risk. Prior studies note that corporate governance mechanisms mitigate the opportunism of manager in managing earnings and improve quality of accounting information, i.e. accruals quality. Accounting information is used by investors and other stakeholders in determining return and risk of their investment. This paper is the first that provides the empirical evidence on the association between corporate governance mechanisms and stock investment risk through accruals quality. Besides, this study is one of the few studies that examine the direct association between corporate governance mechanisms and stock investment risk.

Second, this study adds to the pool of knowledge related to corporate governance by investigating the relation between internal corporate governance and accruals quality. The results of the existing studies on the relation between internal corporate governance and accruals quality are mixed because of the use of specific measures that typically reflect only a single aspect of governance. Each firm may

have different strengths and weaknesses in internal corporate governance in its practice; as such, this study will use the combination of internal corporate governance mechanisms by using the composite corporate governance index which captures all five aspects of corporate governance.

Moreover, this study probes the effects of media coverage on accruals quality and the stock investment risk. The effects of media coverage on accruals quality and stock investment risk are another contribution of this study since no prior study concerns this topic even in developed markets. The benefit of this empirical study shows that media coverage acts as corporate governance by monitoring performance of firms and behavior of managers in emerging market economies. Managers are required to be always wary of information disclosure since the information will usually be disseminated by the media in a swift manner. This means that if untrue information were released to the media, the confidence in and reputation of the firm would be lost. Thus, accounting information needs to be prepared in a correct, complete, and timely fashion for the benefit of the investors and other stakeholders.

Third, this study contributes to the literature on earnings management by providing the empirical evidence on the association between accruals quality and stock investment risk using Thai dataset. The Thai dataset of emerging market economies is used to make this study more interesting. Unlike those in some developed market economies, companies in emerging markets are mostly closely held often by the founding family and have weak investor protection, ineffective legal enforcement, unreliable accounting practice, as well as poor disclosure and

transparency standards. However, these characteristics are similar for companies in other East Asian countries (La Porta, Lopez-De-Silanes, and Shleifer, 1999, 2006). Therefore, using Thai dataset in this study may be applicable to other countries which have similar characteristics.

Finally, the information from this study should be of interest to such various parties as academics, investors, financial practitioners, standard setters, regulators, and policy makers in the Thai capital market, because the effects of corporate governance mechanisms on accruals quality and stock investment risk can explain the variations of governance practices among Thai listed firms. Specifically, Thai capital market regulators (the SET and the SEC) can use the information from this study to better understand the differences of corporate governance mechanisms among Thai listed companies and the relation between corporate governance mechanisms and stock investment risk. Besides, the regulators can use the results to promote the benefits of implementing good corporate governance or to give incentives to listed firms to practice better corporate governance in order to improve the protection of investors in the Thai capital market.

1.5 STRUCTURE OF THE DISSERTATION

The organization of the dissertation consists of five chapters as follows: Chapter I presents an introduction of the dissertation, objectives and contribution. Chapter II is concerned with theories, literature reviews and hypotheses development. Data, methodology and empirical design are presented in Chapter III. Chapter IV discusses the empirical results and Chapter V provides the summary and limitations of this study.

CHAPTER II

THEORY, LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Most business bankruptcy today results from either mismanagement by managers or the expropriation of the firms by the managers or both. Although the owners of economic resources have tied the managers' compensations closely with the latter's performance, which consists of both financial and non-financial measures, so that the managers will act or make decisions in the best interest of the owners, the managers still expropriate the firms to benefit themselves at the expense of the shareholders and, in some cases, to the detriment of the future of the firms. Many have attributed this situation to the agency theory, which in turn gives rise to the agency problems and information asymmetry between the shareholders and the managers.

This chapter presents two underlying theories, i.e. the agency theory and positive accounting theory, the former of which is the foundation for additional research investigation on the importance of the corporate governance mechanism while the latter relating to the behavior of management in choosing accounting method which could impact the quality of accounting information. The literature on the relation between corporate governance mechanisms, i.e. internal corporate governance, ownership structure and external corporate governance, and accruals quality is presented in this chapter. In addition, included in this chapter is the review

of the literature on the association between corporate governance mechanisms, accruals quality and stock investment risk. The development of hypotheses which are derived from the aforesaid theories and prior literature is also addressed this chapter.

2.1 THEORETICAL CONCEPTS

2.1.1 Agency Theory

According to the agency theory, a firm comprises a complicated series of agreements between the principals who own the economic resources and the agents or managers who use and control those resources. Jensen and Meckling (1976) define the theory as a contract under which one party (the principal) engages another party (the agent) to perform certain services on the former's behalf, which involves delegating some decision making authority to the agent. While the owners of economic resources or funds need the manager's specialized human capital to generate returns on their economic resources, the manager needs the owners' funds because he either does not have enough capital of his own to invest or wants to cash out his holding. Consequently, the financiers would like to ensure that once they invest their funds, they will get something of monetary value in return other than a worthless piece of paper from the manager. The resources owners, in reference to the agency problem, normally experience certain difficulties in assuring that their economic resources, particularly money, are used or invested by the agents or managers in lucrative projects.

The agency problems come from the divergences of interests between shareholders and managers and result in the expropriation of shareholders' wealth. The agency problems can be classified as follows (McColgan, 2001):

1. Moral hazard: Managers consume for private benefits rather than investing in new projects.
2. Earnings retention: Managers' benefits increase with the size of the firm; thus, they focus only on the firm's size and not on the returns.
3. Time horizon: Managers are concerned only during the period of their current employment; this short-term orientation may lead to manipulation of the accounting figures and preference for short-term projects to long-term projects even with higher net present values.
4. Risk aversion: Managers will attempt to reduce their personal exposure to risk. The risk aversion will encourage corporate diversification and preference for lower-than-optimum levels of company debts.

Generally, how the funds are used and how returns will be shared between the shareholders and the managers are normally agreed in writing between both parties. Ideally, both sides would sign a perfect contract which explicitly states the tasks the managers do in all circumstances and the proportion of profits to be divided. The contract should be constructed for ensuring that managers act in the shareholders' best interests. The problem is that most future contingencies are difficult to expect and describe, and, as a result, complete contracts are technically infeasible, thereby necessitating the shareholders and the manager to set aside certain residual control rights, such as the right in making decision in cases unanticipated by either or both sides during the contract preparation. The manager use the funds provided by the financiers under the condition that the latter retain all the residual control rights in case their decision is needed in certain unanticipated situations (Grossman and Hart,

1986; Hart and Moore, 1990). Since many financiers are neither qualified nor equipped with sufficient information to decide on the business operations, they thus recruit the manager and thereby unwillingly hand the latter with substantial residual control rights and discretion to invest funds as desired. However, in most contracts there are restrictions that bound and prevent abuse of such discretion, and corporate governance is mostly concerned with such restrictions.

Jensen and Meckling (1976) believe with the assumption that both principal and agent are utility maximizers that the latter will not always act in the best interest of the former. To minimize such likelihood of the agent taking actions to maximize their own wealth, the principal would compensate the agent with an attractive remuneration package and simultaneously incur the monitoring cost to limit the self-enriching activities of the agent. Furthermore, in some instances the agent is compensated by the principal to use resources on the condition that the former guarantees not to take harmful actions against the latter or that the agent guarantees to pay the principal for the damages for such actions taken by the agent. As such, it is highly unlikely, if not impossible, for all concerned parties to be absolutely certain that the agent will only act in the best interest of the principal. The agency cost is thereby defined as the sum of monitoring cost, the bonding cost and residual loss.

Monitoring costs are the expenditures to measure, observe and control an agent's behavior, such as auditing fees, executive compensation package designing and drafting fees, and so forth. These costs are initially paid by the principal, but

Fama and Jensen (1983) argue that the monitoring costs will ultimately be borne by the agent as his/her compensation will be adjusted to cover these costs.

According to McColgan (2001), the cost of additional information disclosures to shareholders and those of having in place structures to ensure that managers do not take any actions at the expense of the shareholders, such as excessive management compensation. The bonding costs which are shouldered by the agent would rise to the point at which the marginal decrease in monitoring cost and the marginal increase in bonding cost are equal. Even with the bonding cost and the monitoring cost present, some misalignment between the interest of the principals and that of the agents does exist. Such conflicts of interest between both parties give rise to agency losses or residual losses which arise as a result of the benefit gained from fully enforcing principal-agent contracts being much less than the cost of doing so. Since it is impractical, if not impossible, to fully monitor every action of the agent, an optimal level of residual loss is designated by the principal so as not to overly constrain the agent while reducing agency problems through the enforcement of contractual mechanism.

The agency theory is also based on the premise that agents have more information than principals and that this information asymmetry adversely affects the principals' ability to effectively monitor whether their interests are being properly served by the agents (Adams, 1994). Asymmetry of information arises from information differences and conflicting incentive between management and shareholders. If the shareholders cannot distinguish between a good and bad project, the manager of the bad project will try to claim that his project is as valuable as the

good one. Ultimately, the shareholders will undervalue some good projects and overvalue some bad projects (Healy and Palepu, 2001). The theory also assumes that the principals and the agents act rationally and use the contracting process to maximize their wealth. In such a case, the asymmetry of information could cause a decrease in shareholders' value.

The principal can minimize the agency problems and information asymmetry by incurring monitoring costs and bonding costs to curb the agent's self-serving behavior (Farinha, 2003). Hart (1995) indicates that corporate governance mechanisms are necessary if agency problems exist and contracts are incomplete. The agency problems and information asymmetry can be solved by the corporate governance mechanisms. The corporate governance mechanisms can reduce managerial opportunism by monitoring the firm's financial reporting process and taking an active, interventionist role in the firm's economic processes. In Shleifer and Vishny's work (1997), corporate governance is defined as the ways in which the financiers assure themselves of a return for their funds invested in the businesses.

A useful and still widely accepted definition of corporate governance is that set out in the Principles of Corporate Governance developed by the Organization for Economic Co-operation and Development (OECD) in 1999:

“Corporate governance is the system by which business corporations are directed and controlled. The corporate governance structure specifies the distribution of rights and responsibilities among directors, managers, shareholders and other stakeholders and spells out the rules and procedures for making decisions on corporate affairs. By doing this it provides the structure

through which the company objectives are set, and the means of attaining those objectives and monitoring performance (OECD, 1999:2)".

As the previous definition gained widespread acceptance, the OECD later introduced a broader definition:

"Corporate governance refers to the private and public institutions, including laws, regulations and accepted business practices, which together govern the relation, in a market economy, between corporate managers and entrepreneurs ('corporate insiders') on one hand, and those who invest resources in corporations, on the other (OECD, 2001:13)".

As a result, the people who invest the capital need to be assured that they get back the return on their capital, and corporate governance mechanisms provide this assurance. The corporate governance mechanisms in this paper are separated into internal corporate governance, ownership structure, and external corporate governance. First, internal corporate governance mechanisms are created in the early stage of the firm's life in order to constrain executive behavior. Second, ownership structure can interfere in the corporate governance system of a firm due to their incentive to protect their interest and thus reduce agency problems by closely monitoring the behavior of management. Finally, external corporate governance mechanisms encompass the controls that external stakeholders exercise over the organization such as product market competition, and media pressure. All of corporate governance mechanisms can reduce agency problems and information asymmetry between shareholders and manager by controlling and monitoring the management actions. This is consistent with the study by Klapper and Love (2004)

which shows that there are associations between corporate governance mechanisms and either the extent of the asymmetry information or contracting imperfections that firms face. In addition, firms with better corporate governance mechanisms are those with better performance and less risk.

2.1.2 Positive Accounting Theory and Earnings Management

The objective of accounting theory is to provide reasons for observed practices and to predict unobserved accounting phenomena. The positive accounting theory suggests that there is the opportunistic behavior by managers such that they choose the optimal accounting methods for a given purpose. There are three general regularities in accounting procedure choices.

First, managers of firms with earnings based compensation plans are more likely to choose accounting procedures that increase their current earnings. Hence, managers in firms with bonus plans have more incentive to boost reported income to increase their bonus.

Prior studies investigate actual compensation contracts to identify managers' earnings management incentives. For example, Healy (1985) and Holthausen, Larcker, and Sloan (1995) show evidence that firms with an upper limit on bonus award are more likely to defer income by manipulating accruals when the limit is reached than firms with comparable performance but without such a limit of bonus award. Likewise, a study by Guidry, Leone and Rock (1999) notes the likelihood of income deferral by divisional managers of a large multinational firm when the earnings target in their bonus plan will not be achieved and when the maximum bonus award under

the scheme entitles them to the bonus reward. The results of these studies indicate that managers likely employ discretionary accruals to enrich themselves with earnings-based bonus awards.

Second, the larger the debt/equity ratio a firm has, the more likely the firm's manager will choose accounting procedures that increase current reported earnings. The larger a firm's debt/equity ratio means the closer (i.e. "tighter") the firm is to the constraints in the debt covenants. Therefore, firms with a larger debt/equity ratio are more likely to boost reported earnings to decrease the debt covenants' constraints.

Several studies have examined whether firms that are close to lending covenants manage earnings. DeFond and Jiambalvo (1994) find that firms manipulate earnings upward one year prior to their violating lending covenants, thereby construing the action as evidence of earnings management by firms close to their lending covenants. Besides, Sweeney (1994) documents that covenant violators make changes to increase income, despite the fact that most typically occur after the violation, not to evade violating the debt covenants but more possibly to decrease the likelihood of future covenant violation. It is also found that, in response to financial difficulties, the sample firms restructured their operations and correspondingly varied their accounting policies and estimates. The results of these studies indicate that lending contracts inadvertently encourage some firms to manipulate earnings in order to avoid or decrease potential violation of debt covenants.

Third, the larger the firms, the more likely the manager selects accounting procedure choices that reduce current reported earnings. This is because larger firms

are more politically sensitive than smaller firms, so they are more likely to reduce reported income to avoid political attention (Watts and Zimmerman, 1978, 1986).

Several research studies investigate the effect of regulatory probe by authorities on the likelihood of earnings management by firms. Cohan (1992) notes that during the investigation period firms under scrutiny for anti-trust violations managed their earnings downward. Besides, Jone (1991) discovers that firms seeking import relief likely defer income in year of application for such relief. Likewise, Key (1997) finds that firms in the cable television industry manage earnings using negative discretionary accruals during the time of Congress hearings to decide on whether to de-regulate the industry.

Since the regulators rely heavily on accounting profits in their deliberation, firms increase the likelihood of obtaining import relief and/or the amount of relief grant, and decrease the possibility to be accused of being monopoly under antitrust law.

The literature generally supports these three general regularities. Management selects accounting procedure choices based on the incentives in the bonus plan, debt covenant, and political costs (Watts and Zimmerman, 1986, 1990). Besides bonus plan, debt covenant, and political cost, academic research shows other incentives for earnings management.

The capital market incentive is motivated by the widespread use of accounting information of investors and financial analysts in stock valuation. Concerning the share price valuation, managers have an incentive to manipulate earnings in an attempt to influence short-term stock price performance. Recent studies investigated whether firms manipulate the earnings upward prior to the time leading to their equity offerings. Teoh, Welch, and Wong (1998b) find that firms manipulate upward the earnings prior to seasoned equity offerings. Besides, firms planning initial public offerings and/or stock-financed acquisitions were found to manage their earnings upward prior to the IPO's and/or acquisitions (Teoh, Welch, and Wong, 1998a; Teoh, Wong, and Rao, 1998; Erickson and Wang, 1998). Following the IPO's and/or stock financed acquisitions, a reversal of abnormal accruals nevertheless is found (Teoh et al., 1998a; Erickson and Wang, 1999).

Consistent with the above, Naktabtee (2000) notes that Thai companies have positive discretionary accruals in the years before and during the year of IPO. Prangthawat (2002) finds Thai companies have income increasing accruals in the years of seasoned equity offering.

Other studies of earnings management for capital market reasons have shown that earnings are manipulated to meet the financial analysts or management forecasts of earnings. For example, Kasznik (1999) notes that firms in danger of falling short of a management earnings forecast using abnormal accruals to manage earnings upward. Burgstahler and Eames (2006) show the results that managers take actions to do upward management and downward management of analysts' forecast to achieve zero and small positive earnings surprises.

The literature shows that managers are driven by several incentives both inside and outside the firm to manage earnings upward or downward. To meet their objectives, managers apply various accounting practices, such as changes to alternative accounting methods and some discretionary transactions.

2.2 CORPORATE GOVERNANCE MECHANISMS AND ACCRUALS QUALITY

Based on the agency theory, the conflict of interest between shareholders and corporate managers implies an incentive and opportunity for managers to manage earnings upward or downward for their self-interest. In addition, the positive accounting theory suggests that there is the opportunistic behavior by managers such that they choose the optimal accounting procedures for a given purpose. The corporate governance mechanisms can reduce upward or downward earnings management problems by monitoring the firm's financial reporting process and taking an active, interventionist role in the firm's economic processes. The corporate governance mechanisms can be categorized as internal corporate governance, ownership structure and external corporate governance. Internal corporate governance mechanisms are created in order to constrain executive behavior. Ownership structure can interfere in corporate governance system of firm because of their incentive to protect their interest by closely monitoring the behavior of managers. Lastly, external corporate governance mechanisms encompass the controls that external stakeholders exercise over the organization and can be a substitute for the internal corporate governance mechanisms when the internal corporate governance mechanisms do not work very effectively.

2.2.1 Internal Corporate Governance Mechanism

At the outset of a firm's establishment during which governance and organizational structures are being shaped, agreements concerning the allocation of the firm's cash flows among financiers, agents, and other stakeholders are normally created. Following the creation and signing of the contracts, the contracting parties well understand that wealth can be transferred among them pending future decisions of the managers or agents. Under the efficient contracting scenario, firms depending upon their economic conditions merely pursue optimal corporate governance choices. Bowen et al. (2008) note that there should not exist the association between governance structures and the level of discretionary accruals if optimal governance choices are pursued and thereby give rise to optimal contracting.

However, prior research shows the evidence that there is an association between accounting discretion—accruals quality and proxies for internal corporate governance, such as managerial compensation, board characteristics, and relations between the executive team and the board.

Much of the prior literature examines the association between board characteristics and accounting discretion. Start with duality of Chairman and CEO. Chairman is the head of the board of directors which monitors management. Then, the chairman position should be separated from that of Chief Executive Officer (CEO). Recent literature discourages the dual position of CEO and chairman (Strickland, Wiles and Zenner, 1996; Wahal, 1996). Dechow, Sloan and Sweeney (1996) note that firms whose CEO also chairs the board of directors are more likely to be subject to accounting enforcement actions by the SEC for alleged GAAP violations. Shivdasani

and Yermack (1999) find the evidence that when the CEO serves on the nominating committee or there is no nominating committee, firms have fewer independent outside directors but more grey directors who have conflicts of interest. They also note that market reacts negatively when the CEO gets involved in the selection of directors. Klein's (2002) study on audit committee composition suggests that when the CEO is sitting on the nominating or compensation committee, the audit committee's independence will be impaired due to the CEO's influencing in the monitoring process.

Even though it is widely believed that a large board may be able to draw from a broader range of experience and is more likely to have independent directors with corporate or financial expertise, research evidence about the association between board size and earnings management is inconclusive. For example, Xie et al. (2003) show the evidence of a negative relation between earnings management and board size. Yermack (1996) notes a small board size is empirically shown to be of high value in the capital market, reasoning that a-small-board-size companies may have low incentive to deal with earnings management, while a-large-board-size firms may have high incentive to manage earnings in order to increase firms' value. In contrast, Abbott et al. (2004) do not find evidence about the association between board size and earnings management.

Besides, there are several studies about the role of an audit committee in mitigating earnings management. For example, Chourou, Bedard, and Courteau (2001) note that firms with a committee composed only of independent directors that

meet more than twice annually could restrain the earnings management behavior of managers. Besides, a study by Klein (2002) finds that U.S. firms with an independent audit committee and active audit committee manifest lower levels of earnings management. Peasnell et al. (2005) similarly find by using a sample of U.K. listed companies that the probability of upward earnings management is negatively correlated with the proportion of independent directors. Independent directors may play an important role in improving the internal corporate control and enhance external corporate control by selecting quality auditors. These results indicate that, in contrast to firms with lower proportion of independent directors, firms with higher proportion of independent directors are less likely to manipulate earnings upward.

Pornupatham (2008) examines the relation between external and internal corporate governance mechanisms and earnings management of non-financial firms in Thailand during 1999-2004. His results show that firms with Big 4 auditors reported lower discretionary accruals than those with non-Big 4 auditors. Within firms with non-Big 4 auditors, auditor tenure with audit clients helps non-Big 4 auditors detect earnings management effectively. For internal corporate governance, firms with larger board size report lower income-increasing discretionary accruals than those with smaller board size. Firms with high ownership concentration are more prone to report higher upward earnings management.

As discussed earlier, it is assumed that the fundamental structural business decisions, such as governance structure and incentive compensation contracts, are made by firms at the outset of their establishment. The decision choices are likely to

complement one another and are generally influenced by the nature of the industry in which the firms plan to compete.

Besides, in this study I measure the corporate governance by using the composite score of corporate governance, i.e. the corporate governance index which is constructed based on the OECD Principles of Corporate Governance covering five principles: rights of shareholders, equitable treatment of shareholders, role of stakeholders in corporate governance, disclosure and transparency, and responsibility of the board (Connelly et al., 2008).

Corporate governance has effects on accruals quality since it encompasses mechanisms which are intended to increase the monitoring of management's action and reduce the chance of having managers engage in opportunistic earnings management. Then, I expect to see a positive association between internal corporate governance and accruals quality. Thus, it is hypothesized that:

H1: Firms that have good internal corporate governance are expected to have higher accruals quality.

2.2.2 Ownership Structures

Two most common approaches to corporate governance are proposed by Shleifer and Vishny (1997), both of which rely on giving investors some power. The first approach is legal protection which gives some power to investors in order to protect themselves from the managers' expropriation. Examples of such legal protection are minority rights protection and legal prohibitions against managerial self-dealing. The large ownership concentration by which significant control rights are matched with significant cash flow rights is the second approach to corporate governance as proposed by the same authors. Such corporate governance mechanisms as controlling shareholders, institutional investor (e.g., insurance companies, banks, pensions, mutual funds, and investment banks) and even takeovers can be regarded as examples of large investors exercising their power.

In this study, I discuss only the second approach of corporate governance ownership by large investors because in most countries, including Thailand, the legal protection is limited (e.g., Claessen, Djankov and Lang, 1999; Ball, Kothari and Robin, 2000; Leuz, Nanda and Wysocki, 2003). This is consistent with La Porta et al.'s (1999) work which indicates that the quality of legal protection in Thailand is weaker than that in Malaysia. In 2005 Thailand underwent corporate governance assessment by the World Bank under the Corporate Governance Report on the Observance of Standards and Codes (CG-ROSC). The results indicate that Thailand's observance of international practices of corporate governance is approximately 69%. The assessment identifies areas of weakness including convergence of Thai accounting standards with the International Financial Reporting Standard (IFRS) and

enactment of laws to provide more protection for minority shareholders (Supinit, 2010).

Sufficient control rights by the legal protection are normally given to small investors to persuade them invest their money; however, in case of small investors given insufficient control rights, they can gain more rights by being large or holding a greater number of shares. With control rights in the hands of a few investors who control a large proportion of cash flow, a collective action by the investors has a greater bearing than when the control rights are widely dispersed among many shareholders. There are several distinct forms that concentration can take, including controlling shareholders and institutional investors. In this section, I discuss these forms of ownership structure (e.g. controlling shareholders and institutional investors) and how they address the agency problems.

2.2.2.1 Controlling Shareholders

According to Shleifer and Vishny (1986b), controlling shareholders are one or several investors with substantial minority ownership stakes in the firm, e.g., 10 percent, 20 percent, or, in some extreme cases, more than 50 percent ownership stake. To prevent the traditional free rider problems from occurring, the controlling shareholders would gather relevant information and monitor the actions of management. With the large shareholders having enough control over the assets of the firm to maximize the profit, the main agency problem shifts from the conflict of interest between shareholders and manager to the conflict of interest between controlling and minority shareholders (Fama and Jensen, 1983; Morck et al., 1988).

Fan and Wong (2002) cite that when ownership concentration is at the level of effective control of the firm, the nature of the agency problem shifts away from conflict of interest between shareholders and manager (type I agency problem) and to conflict of interest between controlling and minority shareholders (type II agency problem). The controlling shareholders who have effective control will determine not only the direction of the firm's operation, but also the share of profit among shareholders. Although the minority shareholders are entitled to the cash flow rights corresponding to their share of equity ownership, they may face the risk of deprivation of their rights from an entrenched controlling ownership.

Forms of concentrated ownership among countries are different because of legal restrictions on large ownership, exercise of control by large shareholders, and the norm in each country. In the United States and the United Kingdom where the rule is broadly dispersed ownership by diversified shareholders, ownership, however, is not completely dispersed, and concentrated holding by families and wealthy investors are more common than is often believed (Eisenberg, 1976; Demsetz, 1983; Shleifer and Vishny, 1986b; Black and Coffee, 1994; Maury, 2006). In most of the rest of the world, including most of Europe (e.g., Austria, Belgium, Finland, France, Germany, Ireland, Italy, Norway, Portugal, Spain, Sweden and Switzerland), as well as Latin America, East Asia (e.g., Hong Kong, Indonesia, Malaysia, Singapore, South Korea, Taiwan and Thailand), and Africa, corporations typically are controlling shareholders, who are often founders or their descendants (Fan and Wong, 2002; Maury, 2006). In short, heavily concentrated ownership and a predominance of concentrated shareholding seem to be the rule around the world.

Under the concentrated ownership environment, there are two effects from controlling shareholders: entrenchment effect and alignment effect. First, according to the entrenchment effect, most believe that controlling shareholders with large concentrated ownership stakes would be tempted to transfer wealth to themselves from other shareholders (Fama and Jensen, 1983; Morck, Shleifer and Vishny, 1988; Shleifer and Vishny, 1997). Thus, the entrenchment effect predicts that controlling ownership firms are more likely to manage earnings or report high earnings in order to maximize their private benefits that are costly to other shareholders.

The entrenchment effect created by the controlling owner is similar to the managerial entrenchment problem discussed by Morck et al. (1988). Several studies show evidence of entrenchment effect. For example, Barclay and Holderness (1989) note that large ownership stakes could reduce the value of the firm by lowering the bidding likelihood by other agents. In addition, gaining control of the firm by other parties is difficult with the controlling family playing an important role in the selection of managers and directors. Shleifer and Vishny (1997) note that large shareholders can incur great costs to the firm by remaining active in management despite the fact that they are inexperienced to run the business. Thus, it is likely that older family firms would perform poorly than would non-family firms.

Claessens et al. (2000) document that family shareholders can expropriate minority shareholders' wealth by using excess compensation schemes and related party transactions. DeAngelo and DeAngelo (2000) find that high concentrated ownership extracts private rents through special dividends. They also suggest that the

family's desire for special dividends affects the firm's expansion plans, leading to worse operating performance and decreasing stock price value. Recently, Kim and Yi (2005) note that firms with business groups are more likely to engage in opportunistic earnings management than those without because the controlling shareholders of the former are presented with more incentives to do so.

Pornupatham (2008) examines the relation between external and internal corporate governance mechanisms and earnings management of non-financial firms in Thailand during 1999-2004. Basing on the data of non-Big4 clients with higher ownership that are more prone to report higher upward earnings management than those with lower ownership concentration, he notes a significant positive coefficient of ownership concentration and discretionary accrual. He suggests that firms with higher family ownership are prone to manipulate earnings increased than those with lower family ownership.

Second, the alignment effect is based on the notion that, because of the large ownership stakes of family members and their long-term presence, the interests of family shareholders and other shareholders or those of controlling shareholders and minority interests are in good agreement. As such, it is less likely through earnings management for family shareholders or controlling shareholders to transfer wealth from other shareholders to enrich themselves. Demsetz and Lehn (1985) note that since the wealth of family owners and controlling shareholders is largely dependent upon the value of the firm, they thus are motivated to monitor managers and to minimize the free rider problem often found with the small shareholders.

Furthermore, it makes good economic sense for family shareholders or controlling shareholders to minimize agency conflicts and maximize the value of the firm.

DeAngelo and DeAngelo (1985) discover that participation by family members in the firm helps monitor the managers and their actions. A field research by Kang (1998) has shown that founding family members play an active role in monitoring their managers. The researcher also suggests that the family members use the information flow between them and managers as a control mechanism by which managers make decisions with the understanding that they would be called upon by the family owners in face-to-face conversations to justify the former's decisions. Due to the uniqueness of the founding family control, the relation between founding family control and the value of the firm would not be influenced by the portion of outside directors on the board. Besides, the controlling ownership can provide competitive advantages because their lengthy tenure permits them to further along the firm's learning curves.

The reputation costs which are the result of the sustained presence of family in the firm and the effect of such presence on third parties could induce some worry in the founding family shareholders. The long term nature of family ownership implies that such external stakeholders as suppliers and capital providers would have more preference to deal business with the same management and practices for longer periods in family firms to non-family firms where managers and directors change on a relatively continuous basis. Thus, unlike the non-family firms, the family's reputation tends to create longer lasting economic consequences for the family firms.

Fama and Jensen (1983) find a negative association of the agency costs to the family relationships between managers and owners because such relationships which are multidimensional and long-term in nature help improve monitoring of managers' decision-making. Similarly, Demsetz and Lehn (1985) and Shleifer and Vishny (1997) suggest that controlling shareholders might have an effective firm monitoring. Due to controlling shareholders' long-term and sustainable presence in the firm and their intention to preserve the family name, controlling shareholders have a greater interest in the firm than non-family professional executives. In addition, with the intention to pass on to their descendants the business and to maintain the reputation of the family, controlling or family shareholders are unlikely to engage in earnings management behavior for short-term benefits. This is because such earning management activities, besides ruining the family's reputation and wealth, could damage firm's performance in the long run. Hence, the alignment effect expects that family firms are less likely to manage earnings for their short-term private benefits at the expense of long-term survival of the firm.

Xia et al. (2003) note that earnings management is less likely to be found in firms with financially-sophisticated board members. The similar phenomenon is also found in firms with which the founding family members have long-term association because of their superior knowledge of the firm's operation and practices and significant reputation costs of family owners as many family firms bear their founders' names and the family plans to pass the firms to their future generations.

Wang (2006) investigates the relation between founding family ownership and absolute value of abnormal accruals (earnings before extraordinary items minus cash flow from operating) by using data from S&P 500 firms for the period of 1994 to 2002. The author finds that founding family ownership is negatively associated with absolute abnormal accruals, or that founding family firms report a lower level of abnormal accruals, a finding consistent with the alignment effect of family ownership on the supply of earnings quality.

Recently, Jiraporn and DaDalt (2009) examine the relation between founding family control and earnings management by using the list of firms made available by Anderson and Reeb (2003a, b, 2004) totaling 1,500 firm year observations in the 1990s. They note that the unique characteristics of family controlled firms could insulate these firms from pressures to manage earnings. The results show that family firms are significantly less likely to manage earnings than non-family firms.

Tirapat (2000) examines the relations between the percentage of outside directors and firm performance. By using data of Thai listed companies over 1995 - 1999, the author finds inconclusive the relation between outside board of directors and firm performance. He concludes that the concentration of ownership seems to be the effective control mechanism.

The incentives of family firms in these areas are unlike those of shareholders associated with non-family controlled firms because of the former's large ownership in the business. Family firms with concentrated insider ownership are largely shielded from corporate takeover, which many believe could result in entrenched

management. Nevertheless, the lower occurrence of earnings management may ensue this separation of management as managers would less likely be pressured to manipulate earnings upward to avoid being a target of takeover. Moreover, owners of family firms view their firms not merely as a means to fund their current assumption but as an asset to inherit their descendants as well. Higher proportion of family controlled firm will constrain opportunistic earnings management. I expect to find a positive association between family ownership and accruals quality. Thus, I hypothesize that:

H2a: Firms with higher proportion of family ownership are expected to have higher accruals quality.

2.2.2.2 Institutional Investors

Significant institutional investors, for example, banks, insurance companies, pensions, mutual funds and investment banks, are also large and potential active investors. Similar to controlling shareholders, they have large share ownership in the firms and want to get return back from their investment.

Institutional owners are often characterized as sophisticated investors because they can generally use current information to predict future earnings better than non-institutional investors or to process value relevant information (e.g. Lev, 1988; Shiller and Pound, 1989; Jiambalvo, Rajgopal, and Venkatachalam, 2002). Besides, Stapledon (1996b) states that increase in institutional ownership as an entity provides

strong incentive for an investor to actively monitor and influence management's policy for that entity.

There are two opposing views of institutional investors—short term and long term oriented institutional investors. Bushee (1998) and Porter (1992) regard short-term oriented institutional investors as myopic investors since the latter when determining stock prices focus excessively on the current earnings to the exclusion of long-term profitability. Having had to create their own portfolios and readjust them to maintain or, if possible, improve their own performance, short-term oriented institutional investors lack adequate time or resources to actively monitor the firm's performance (Black and Coffee, 1994; Stapledon, 1996a). Whenever the current earnings come below the market expectation, the short-term oriented institutional investors would liquidate their shares (Pound and Shiller, 1987; Lang and McNichols, 1997), and such an excessive focus on current earnings figure by this group of short-term investors put pressure on managers to manipulate upward the earnings (Porter, 1992; Stapledon, 1996b). Besides, studies by Burgstahler and Dicheve (1997) and Myers and Skinner (1999) show that (1) managers are motivated to avoid earnings decreases or losses, (2) current earnings news has great bearing on trading activity by institutional investors, and (3) managers would aggressively manage earnings if doing so benefits them. These arguments indicate an association between aggressive earnings management by the firm managers and actions taken by short-term oriented institutional investors.

On the other hand, long term oriented institutional investors, more concentrated among a small number of investors, invest in firms with intention of holding their ownership stake over a long time horizon and have strong incentive to monitor those firms. In addition, due to the small number of shareholders, it becomes less costly for them for any collective action. With the formation of a small and relatively homogenous group of institutional investors, the monitoring process could be simplified and the demand on individual institutional investors' limited financial resources reduced (Koh, 2003).

Although there has been a great deal of theoretical discussion of governance by institutional investors, the empirical evidence of their role remains scarce. For example, Bushee (1998) finds that the likelihood of managers slashing R&D expenditure to reverse an earnings decline is low when institutional ownership is high. This implies that institutional investors are sophisticated enough to act as a monitor to prevent managers from taking myopic behavior. However, the same author notes that the larger the proportion of ownership by institutions with high portfolio turnover and engaging in momentum trading, the greater the probability that managers reduce R&D spending to reverse a decline in earnings. These results show that extremely high levels of ownership in a firm by short-term oriented investors encourage short-sighted investment decisions on the part of the firm's manager, contrary to long-term institutional investors who dissuade the manager from making myopic investment decisions. This is consistent with the findings by Majumdar and Nagarajan (1997) which show a positively significant association of relatively higher spending on R&D and capital expenditures to the presence of long-term institutional investors.

Rajgopal and Venkatachalam (1998) note a negative association between institutional ownership and upward earnings management. In addition, institutional investors who play an active role in the firm's operation reduce the likelihood of manager's engaging in income increasing discretionary accruals when the pressure to increase earnings does exist (Cheng and Reitenga, 2000). Moreover, Balsam, Bartov and Marquardt (2002) note that institutional investors could detect earnings management faster and easier than non-institutional investors because the former have access to more timely and relevant information. All the above suggests that institutional ownership plays an important role in monitoring, which in turn limits opportunistic earnings management.

Koh (2003) studies Australian listed firms to investigate whether there exists the association between institutional ownership and firms' aggressive earnings management, and his results manifest the non-linear association between the two variables. That is, a positive association is found at the lower levels of institutional ownership, consistent with the notion that short-term oriented institutional investors encourage managers to manipulate upward the earnings. On the contrary, a negative association is found at the higher levels of institutional ownership, in line with the view that long-term oriented institutional investors help monitor and limit the managerial accruals discretion. The findings suggest that with high levels of ownership in the firm, institutional investors can act as a complementary corporate governance mechanism in mitigating myopic aggressive earnings management.

Koh (2007) advocates the notion that, in firms that engage in earnings management to meet or beat the earnings expectation of the market, long-term institution investors could restrain such behavior among those firms. However, no evidence of the association between transient institutional investors and aggressive earnings management is found except for those firms that manage earnings to meet or exceed their earnings benchmarks.

In Thailand, Ananchotikul (2007) shows the evidence that foreign institutional investors in Thailand also have influenced Thai firms to improve their governance system to increase their firms' value. Hence, institutional investors can potentially monitor abuse of accounting discretion by managers. If the managers have an opportunist motivation, the relation between accounting discretion and institutional ownership is expected to be negative.

As institutional investors are believed to be sophisticated investors and get involved in corporate governance, this likely limits management accounting discretion accruals and mitigates managerial incentives to adopt aggressive earnings management strategies. I expect to find a positive association between institutional ownership and accruals quality. Thus, I hypothesize that:

H2b: Firms with higher proportion of institutional ownership are expected to have higher accruals quality.

2.2.3 External Corporate Governance Mechanism

The role of corporate governance in reducing the agency problems arising from the division of ownership and control between shareholders and managers respectively has been examined in countless theoretical and empirical works. However, existing evidence has still pointed out the weaknesses of the conventional corporate governance mechanisms for inadequately addressing the problems (e.g., Becker, et al., 1998; Guidry et al., 1999; Klein, 2002).

Surprisingly, a large number of firms are able to operate efficiently and compete effectively in the global markets in the absence of effective corporate governance systems (Berle and Means, 1932). Allen and Gale (2000) suggest that external corporate governance mechanisms can provide effective monitoring of management and can be substitute for internal corporate governance mechanism in changing product market environment.

External corporate governance controls encompass the controls external stakeholders exercise over the organization, such as market for corporate control, product market competition and media pressure. I do not discuss about the market for corporate control, i.e. takeovers, because it is less likely to occur in Thailand. The market for corporate control becomes active when a firm's internal controls fail, which is triggered by a firm's poor performance relative to industry competition. Recently, Allen and Gale (2000) formalize a model to show that product market competition acts as a substitute for the market for corporate control.

2.2.3.1 Product Market Competition

Although firms' internal corporate governance structures are designed to mitigate agency problems between managers and shareholders, such problems still exist. This is due to the fact that governance and management systems are integrated and therefore managers are able to exercise their power to control or contrive the governance structures in order to entrench themselves or take personal gains from the company. Based on the Allen and Gale's (2000) theoretical arguments, for firms operating in competitive markets, the importance of standard governance mechanisms becomes less, thereby rendering product market competition an alternative solution to the agency problems. Product market competition, unlike conventional governance mechanisms, is an external factor which can be used as an effective market monitoring tool. Thus, competition would motivate managers to exert more effort in their work.

Prior literature notes that product market competition has two effects on management. First, competition reduces profit and this fear of liquidation can be used to discipline management. Second, competition also cuts salaries and compensations. According to the agency theory, managers spend less effort and time on their work because of a decrease in their income. Although competition essentially alleviates the conflict of interest between shareholders and managers, extreme competition reduces the effect of discipline on management. Thus, the quality of conventional corporate governance is still important even if competition can discipline management (e.g., Schmidt, 1997; Padilla, 2000).

Accounting research studies whether a firm's product market competition acts as an external mechanism for disciplining management and ensuring corporate performance. For example, Allen and Gale (2000) advocate the application of product market competition in the selection of firms with the best management team and in the elimination of poorly managed firms. The successful companies are able to capture a large market share while preventing the less efficient firms from successfully competing in the same market. This implies that product market competition acts as a market for takeover; nevertheless, instead of acquiring other firms in a takeover, acquiring firms take over the product market. The researchers thus suggest using product market competition as a direct substitute alternative for corporate governance mechanisms.

Randoy and Jenssen (2004) study Swedish firms and find a negative relationship between board independence and product market competition. Specifically, in highly competitive industries, firms are already supervised by the market, so board independence is less relevant or even redundant. In addition, their study shows that board independence reduces (enhances) firms performance in the highly (less) competitive markets.

Having analyzed the combined effect of board characteristics and market competition on firm's performance, Bozec (2005) finds that firm's profitability and productivity are positively, significantly correlated with competition. Specifically, competition drives boards of directors to exert more effort and become more effective, thereby leading to improved performance of the firm.

Johnson, Moorman, and Sorescu (2006) show the evidence of the difference in the distribution of shareholder rights among different industries. The researchers, with the industry effects controlled, find no difference in abnormal returns between firms with stronger shareholder rights and those with weaker rights. Moreover, when the entrenchment index, a measurement of corporate governance quality, as proposed by Bebchuk, Cohen, and Farrell (2005) is used, the results still hold. Thus, it could be said that the quality of corporate governance is influenced by industry characteristics.

Recently, Chou (2008) shows that firms in competitive industries or those with low market power are likely to have poor corporate governance structures and that corporate governance quality has a significant effect on the firm's performance only in the weak product market competition. The findings suggest that product market competition considerably influences the corporate governance and substitutes for the internal corporate governance. The author also notes that the fear of liquidation is the force behind management's toeing the corporate governance line. Overall, the study results are in line with the views proposed by Allen and Gale (2000).

However, Cremers, Nair, and Peyer (2007) find that, due mainly to customer relationship, firms in competitive industries have weaker shareholder rights, which is more explicit in industries with fierce competition where businesses have established long-term relationships with their customers. As such, these firms would have takeover defenses and other restrictions of shareholders rights built in so as to lessen customer's survival concerns.

Although many researchers argue that competition can improve performance and monitor management, there are not many papers investigating the direct effect of competition on performance. Nickell (1996) finds an association between a higher total factor productivity growth rate and an increase in competition, the latter of which is measured by increased numbers of competitors or by lower levels of rents. Nonetheless, Hou and Robinson (2006) note that compared with concentrated industries, competitive industries are more profitable.

Nickell, Nicolitsas and Dryden (1997) investigate the role of three external factors, i.e. product market competition, financial market pressure and shareholder control, in improving firms' productivity performance. They find that the average rents normalized on value-added (an inverse measure of competition) are negatively correlated with the growth of total factor productivity, that interest payments normalized on cash flows are positively associated with the firms' productivity growth in the future, and that firms with a dominant external shareholder from the financial sector grow at a higher productivity rate. In addition, certain evidence indicates that two of the three factors, i.e. financial market pressure and shareholder control, can take the place of competition.

Some accounting studies explore how competition interacts with corporate governance and affects the firm's performance. For example, by studying German manufacturing firms, Januszewski, Köke and Winter (2002) find that firms operating in the fiercely competitive market or under the control of a strong ultimate owner are likely to have higher productivity growth. Their results also show that competition

and tight control are complementary in the sense that the positive effect of competition is increased with the presence of such a strong ultimate owner.

Grosfeld and Tressel (2002) provide the evidence of a significantly positive relationship between product market competition and firm's performance. They also find that firms with either relatively dispersed or relatively concentrated ownership tend to have higher productivity growth than those with moderate degree of ownership concentration. The type of the controlling shareholder, however, exhibits no influence over the relationship between the ownership concentration and productivity. Finally, rather than being substitutes, good corporate governance and product market competition likely reinforce each other.

Köke and Renneboog (2005) investigate the impact of corporate governance and product market competition on productivity of German and U.K. firms. They find a strong positive relation between productivity and product market competition and various governance mechanisms, i.e. blockholder and type of owners.

As discussed earlier, increased competition reduces the profit of a firm. The competition has two impacts on the management: the fear of bankruptcy and the reducing in the private benefits of control (Schmidt, 1997). On the one hand, a manager fears bankruptcy. If a firm cannot make enough profit to survive, it will eventually be liquidated. The fear of liquidation induces the manager to work hard in order to prevent the firm from bankruptcy and to secure his job. To keep his job, he has an incentive to manage earnings to avoid a loss or earnings decrease. For example, Zhou (2000) investigates the relation between the competitive level, product

type and differential income smoothing among manufacturing firms. The results show that managers use discretionary accruals to smooth income because of job security concerns. Income smoothing is expected to occur when firms' pre-managed earnings are above (below) the industry median and future earnings are below (above) the industry median. Interestingly, the author finds that managers in more competitive industries and durable goods industries engage more in income smoothing because of concerns over job security. Alternative measure of competition level and product type are significantly positively (negatively) related to discretionary accruals when firms' current pre-managed earnings are above (below) the industry median and future earnings are below (above) the industry median. It means that firms in more competitive industries and durable goods industries save more for (borrow more from) the future when firms' current pre-managed earnings are above (below) the industry median and future earnings are below (above) the industry median to alleviate job security concerns.

On the other hand, the competition reduces the private benefits of control which are generally considered a signal of good corporate governance structure. Based on Guadalupe and Perez-Gonzalez's (2006) study using publicly traded data in 19 countries, industry characteristics have an effect on the corporate governance quality. In particular, the higher the degree of competition, the lower the degree of private benefits of control. It is also found that both managers and owners of local businesses in the industry facing fierce competition from international market would earn fewer private benefits from controlling their own companies, indirectly indicating that competition enhances corporate governance. The researchers suggest

that competition which prompts the improvements of information transparency for firms in the same industry and the fear of bankruptcy among top executives has some direct impact on the corporate governance.

As previously mentioned, market competition helps distinguish managers with good performance track records from those with poor performance and simultaneously discipline managers with sub-par performance. The fear of liquidation induces the manager to work hard in order to prevent the firm from bankruptcy and to secure his job. To secure his job, he has an incentive to manipulate earnings by using discretionary accruals. Firms with higher market power are less likely to manipulate earnings. Thus, I expect to find positive association between product market competition and accruals quality. I formulate the following hypothesis.

H3a: Firms with higher market power are expected to have higher accruals quality.

2.2.3.2 Media Coverage

Through mass media uninformed and unsophisticated investors learn about information that might affect their investment. Even though actions taken by such investors to enter or exit the market may not directly affect the stock prices, media coverage can both enhance and ruin reputation of the firm, thereby the latter's managerial behavior. Specifically, in the presence of media scrutiny, good reputation becomes a significant component in managerial utility maximization as bad publicity could deteriorate the value of private benefits. In Dyck, Zingales, and Volchkova's study (2005), media are portrayed to play a role in reversing governance violation.

Besides, Dyck and Zingales (2002) suggest that media play the role of information aggregators in the real world. Media play a vital part in selecting information to communicate to the public and in adding the credibility to information channeled through other sources. Hence, media definitely have some bearing on information distributed to people since individuals usually obtain information from the media. The importance of media roles in the creation and accumulation of reputation of firms is raised through selectively reducing the agents' cost of collecting and evaluating information.

The same researchers also suggest that media can influence firm's corporate governance by affecting reputation of the firm in at least three ways. The media can (1) put pressure on politicians to introduce reforms on corporate law or to enforce existing corporate laws in order to protect their future political careers or embarrass them in the eyes of the general public, (2) enhance or ruin the reputations of managers and board members in the eyes of shareholders and future employers, and (3) affect the reputation of their own in the eyes of the general society through their own actions.

Based on recent evidence (i.e., Dyck and Zingales, 2002; Dyck, Morse and Zingales, 2008; Bushee et al., 2006), media also has an information production role by which the earnings announcement effects are influenced by the news contents and corporate frauds are made public by investigative reporters serving as whistleblowers.

Miller (2006) investigates the press's role as a "watchdog" for accounting frauds. The author finds that the press fulfills this role by rebroadcasting information from other information intermediaries and by undertaking original investigation and analysis. He notes that articles based on original analysis provide new information to the market while those that rebroadcast allegations from other intermediaries do not. Consistent with a dual role of the press, he finds that business-oriented press is more likely to undertake original analysis while non-business publication focuses primarily on rebroadcasting. He also finds systematic biases in the types of firms and frauds for which articles are published. Generally, the press covers firms and frauds that will be of interest to a broad set of readers and situations that incur lower costs to identify and investigate.

Knyazeva (2007) investigates whether media coverage directly influences a firm's performance and managerial behavior by hand collecting the data from Factiva. Compared with those observed for analysts' following, the effects found by the researcher are nevertheless weaker, but a positive relationship between media coverage and operating performance does exist. Furthermore, it is discovered that media attention leads to greater caution in investment decisions, lower debt issuance, higher equity issuance, lower leverage and larger retention of cash. However, with regard to the volume of acquisitions or earnings management, media coverage is found to show little significance.

All discussed above, media coverage plays an important role in the dissemination of private information to uninformed and unsophisticated investors. Media attention could affect reputations of managers, board members and firms in the eyes of stakeholders i.e. shareholders, employers, society. The managers are not likely to manipulate earnings by using discretionary accruals. The measure of media coverage does not distinguish between positive and negative news coverage but considers only the overall intensity of media monitoring. As such, I predict that there is a positive association between media coverage and accruals quality. I formulate the following hypothesis.

H3b: Firms with more media coverage are expected to have higher accruals quality.

2.3 CORPORATE GOVERNANCE MECHANISMS, ACCRUALS QUALITY AND STOCK INVESTMENT RISK

2.3.1 Accruals Quality and Stock Investment Risk

Accrual accounting provides information on the economic performance of firms based on assumptions which require managers' judgement and the legitimate exercise of accounting discretion. Thus, it plays an important role in earnings management. Even though accrual accounting provides useful information for decision making, firms' managers may reduce the credibility of accounting numbers by manipulating them through their judgement and accounting choices. Accruals quality, as defined in Dechow and Dichev (2002), captures how well accruals map into cash flows, a key element of investors' payoff structure, and thus is an important earnings attribute in affecting price informativeness. Francis et al. (2004) note that accruals quality has the largest impact on reducing cost of capital among seven earnings attributes, i.e. accruals quality, persistence, predictability, smoothness, value relevance, timeliness, and conservatism.

Several recent empirical papers study the linkage between the quality of financial reporting and information risk (e.g. Francis et al., 2005; Aboody et al., 2005; Chen, Shevlin and Tong, 2007). The researchers in their studies have employed theoretical models which suggest that information risk is a non-diversifiable risk for which its price is determined by the market.

Francis et al. (2005) examine whether the capital markets play a role in pricing information risk using the precision of information as a proxy. Although cash flows

are the main element of earnings pertinent to the valuation and risk assessment of a firm, it is widely believed that earnings contain certain information about future cash flows. They highlight that, unlike cash flows which are actually realized, accruals are concerned with judgments, estimations and allocation, thus causing the accrual component of earnings to become more uncertain than the cash flow component. This leads to the argument by the researchers that with accruals quality higher, the earnings and cash flows are improved, all of which lead to lower information risk and thus the reduced cost of capital. Their results, consistent with the argument, show that the borrowing cost and cost of equity are higher for US firms with poorer accruals quality; hence, they conclude that accruals quality is a priced risk factor.

Using the samples in Australia, where several institutional and regulatory differences from those of the U.S. exist, Gray, Koh and Tong (2009) have re-examined the interactions among accruals quality, information risk and cost of capital. They find that for Australian firms the cost of capital is influenced by accruals quality; however, the results are not uniform. Unlike the finding for US firms in which the costs of capital are chiefly influenced by accruals quality arising from discretionary reporting choices, that for Australian firms shows that the costs of capital are mainly influenced by accruals quality arising from economic fundamentals. This finding is in line with the researchers' expectations based on the dissimilarity in institutional and regulatory settings of both countries. Additionally, they find that the accruals quality is a priced risk factor, using the asset pricing tests in Francis et al. (2005) and Core, Guay and Verdi (2008).

Liu and Wysocki (2007) note that accruals quality and operating volatility are highly correlated and that the accruals quality related to operating volatility is the portion that affects cost of equity capital. Chen, Dhaliwal and Trombley (2008) show the effect of accruals quality on cost of equity capital crucially depends on the level of fundamental risk, confirming theoretical work by Yee (2006). However, Cohen (2008) fails to find a significant relation between systematic volatility and accruals quality after controlling for fundamental factors that may determine manager's choice of disclosure quality.

On the other hand, Easley and O'Hara (2004) and Lamber et al. (2007) argue that accounting information pertaining to a firm's expected cash flows, among other things, affects the information environment surrounding the firm's equilibrium stock returns. Easley and O'Hara (2004) have studied the behavior of both informed and uninformed investors in response to the quantity and quality of private and public information. Their argument is that relative to informed investors, less-informed investors face greater risk as a result of the information asymmetry arising from higher levels of private information. Since such information risk is non-diversifiable, less-informed investors normally require higher returns on stocks with greater private information than their counterparts. Furthermore, they note that the cost of capital could be lowered with accurate accounting information since such information helps reduce the information risk encountered by uninformed investors as a result of the information asymmetry across investors.

Having created a model which is consistent with the Capital Asset Pricing Model and includes a number of stocks with correlated cash flows, Lambert et al. (2007) note that quality of accounting information is not an independent risk factor but does directly and indirectly affect the cost of capital. Specifically, the direct effect occurs due to the fact that higher quality disclosures have an effect on investors' assessments of the covariance of firm's cash flows with those of the market, thereby affecting the firm's beta. Thus, accruals quality is highly correlated with a variety of risk measures. Regarding the indirect effect, higher quality disclosures are likely to influence a firm's real decision, which tends to alter the firm's ratio of the expected future cash flows to the covariance of these cash flows with the sum of all the cash flows in the market. Furthermore, they not only reveal that this effect can go in either direction but also unearth the conditions under which the cost of capital of the firm is reduced with an increase in information quality.

Reasoning that the regression analyses of Francis, LaFond, Olsson, and Schipper (2005) fail to test the hypothesis that accruals quality is a priced risk factor, Core et al. (2008) conduct an appropriate asset-pricing test in order to find out whether or not expected return can be explained by a potential risk factor. Unfortunately, they find no evidence to substantiate the conviction that accruals quality is a priced risk factor. However, these findings do not lead to a definite conclusion that accounting quality is irrelevant or that expected returns are not influenced by information risk.

A number of studies examine the relation between earnings volatility and returns volatility. Vuolteenaho (2002) decomposes the variation in returns into components related to expected cashflows (i.e. earnings) changes and discount rate changes and notes that variation in returns at the individual level is mainly due to innovations in earnings. Callen and Segal (2004) document that returns volatility is mainly attributable to accruals volatility. Pastor and Veronesi (2003) show that uncertainty in profitability increases idiosyncratic volatility. To the extent that accruals quality decreases with uncertainty in profitability, higher accruals decreases idiosyncratic risk. Cohen (2008) notes that after controlling for the determinants of disclosure quality, accruals quality reduces idiosyncratic risk. Rajgopal and Venkatachalam (2009) document that the downward trend in earnings quality is related to the upward trend in idiosyncratic volatility, suggesting that poor earnings quality increases idiosyncratic volatility.

Recently, Shan et al. (2009) examine the relation between the accruals volatility and firm specific returns volatility. The authors separate the components of accruals quality into innate and discretionary accruals. They provide a model that predicts a positive relation between accruals volatility and firm specific returns volatility and provide empirical evidence to support their prediction. They also find that this relation is driven mainly by innate accruals volatility and holds for both systematic and idiosyncratic volatility.

Accruals quality affects multiple aspects of a firm's information environment (Bhattacharya et al., 2007b) and different informational aspects have different effects on stock investment risk. As accruals quality increases, firm specific information becomes more precise. Easley and O'Hara (2004) suggest that more precise information reduces undiversifiable information risk. Besides, improved accruals quality decreases information asymmetry while increasing liquidity (Bhattacharya, Desai and Venkataraman, 2007a). The decrease in information asymmetry may reduce idiosyncratic volatility because there is less divergence of opinions (Kim and Verrecchia, 1994). Therefore, I examine whether there is an association between accruals quality and a firm's stock investment risk. I expect to find a negative association between accruals quality (higher value of accruals quality) and the firms' stock investment risk. I test the following hypothesis:

H4: The stock investment risk of firms with better accruals quality is lower than that of firms with poorer accruals quality.

2.3.2 Internal Corporate Governance Mechanism and Stock Investment Risk

The effect of corporate governance mechanism on equity prices, the distribution of returns, and firm risk is an important issue in corporate governance and corporate finance. Gompers et al. (2003) investigate the relation between corporate governance and long-term equity returns, firm value, and accounting measures of performance. They use the incidence of 24 governance rules and construct a "Governance Index" as a proxy for the level of shareholder rights during the 1990s. Obviously, these research results are in line with the hypothesis that poorly-governed

companies are normally outperformed by their well-governed ones. Furthermore, firms with good governance are likely to have higher equity returns, are highly valued by the market, and show better operating performance. As such, these findings motivate investors to take into account firms' corporate governance mechanisms in their investment decisions since some investors might not have fully realized the extent of agency costs resulting from weak governance.

Using the data from 1990 to 2001, Cremers and Naire (2005) find that only if the block-holder ownership is high, a portfolio that buys firms with the highest level of takeover vulnerability and sells those with the lowest level of takeover vulnerability can generate an annualized abnormal return of 10% to 15%. In addition, they reveal that when vulnerability to takeovers is high, a portfolio designed to capture the key internal governance can produce 8% annualized abnormal returns. These results show that the complementary effect is found for firms with lower industry-adjusted leverage and is more evident for smaller firms.

Decision-making quality for corporate investment is found to increase with the degree of idiosyncratic risk (Durnev et al., 2004). Since good governance is mirrored by good capital budgeting, the apparent relation of idiosyncratic risk to investment decision-making quality could statistically substitute an underlying economic relation between governance provisions and quality of investment. Moreover, it is noted that takeover restrictions could act as a safe haven for current management from their poor investment decisions.

Besides, Ferreira and Laux (2007) study the relation between corporate governance policy, i.e. antitakeover provisions, and idiosyncratic risk by using the data for the period from 1990 to 2001, omitting financial firms and utilities. Based on their findings, firms with fewer antitakeover provisions have higher levels of idiosyncratic risk, trading activity, private information flow, and information about future earnings in stock prices. Additionally, they note that the relation between governance and idiosyncratic risk is strengthened in the presence of institutional trading, particularly by those active in merger arbitrage. Openness to the market for corporate control encourages the collection of and the trading on private information, thereby leading to more informative stock prices. In line with an information-flow interpretation, they also find the association between non-governance-related idiosyncratic risk and the quality of investment decision-making. In other words, a positive correlation exists between the risk component unrelated to governance and the efficiency of corporate investment.

Recently, using firm-level and country-level data from 1992 to 2002 of 39 countries, John, Litov and Yeung (2008) have revealed that better investor protection encourages corporations to invest in riskier but value-enhancing projects. For example, better investor protection helps reduce the occurrence of excess risk-avoidance due to the manager's actions to increase private benefits. Furthermore, non-equity stakeholders are ineffective in reducing corporate risk-taking for their self-interests in the context with better investor protection. Analyzing only US sample firms with detailed firm-level data regarding corporate governance and the measure of investor protection, they also find that the quality of investor protection is positively

correlated with corporate risk-taking and firm growth rates. However, industries with high level of unionization are found to be non-conducive to corporate risk-taking.

There are a few studies investigating the effect of corporate governance on firm risk and stock return by using Thai data. For example, Jaikengkit (2004) investigates the impacts of corporate governance on the probability of financial distress of Thai financial institution in the period of the East Asian financial crisis. The author focuses on concentrated ownership, board of directors characteristics, and managerial ownership by using the data of Thai financial institutions during 1996 - 1998. The result shows that the level of interest alignment between management and shareholders is positively related to the probability of financial distress. In addition, managerial ownership in Thai financial industry is not a tool to ameliorate the agency problem but is a tool to deteriorate it. However, she documents that the independence of board of directors, which is a governance mechanism, can help monitor the managers' effectiveness and reduce the agency costs. She also notes that information about corporate governance enhances the prediction of the probability of financial distress in Thai financial institutions when compared with the prediction without such independent variables in the model. This means that except for the financial characteristics, corporate governance contains information relevant to corporate failure. There is a relation between the probability of financial distress experienced by Thai financial institutions and corporate governance. Therefore, an early warning system is incomplete without incorporating the corporate governance characteristics.

Nittayagasetwat and Nittayagasetwat (2006) investigate the relationships between a firm's stock return and corporate governance rating announcements by using the event study methodology. The results show that there is no significant abnormal return around the days of the announcement of corporate governance rating by the Thai Rating and Information Services Co., Ltd. They also suggest that good corporate governance may be of little concern to investors.

Corporate governance mechanisms are related to stock investment risk because corporate governance mechanisms have influence on mitigating the agency problem and the information asymmetry between shareholders and managers. There is a direct effect of corporate governance on firms' stock investment risk. Thus, I expect to find a negative association between internal corporate governance and stock investment risk. Besides, the corporate governance mechanisms can improve the accruals quality by restricting managers' ability to manage earnings. The corporate governance mechanisms affect firm risk through quality of accounting information. Therefore, I formulate the following hypotheses.

H5a: Firms with better internal corporate governance will have lower stock

investment risk.

H5b: There is an association between internal corporate governance and stock

investment risk through accruals quality.

2.3.3 Ownership Structure and Stock Investment Risk

Corporate ownership structures in which a few individuals own a large fraction of the firm's stock are pervasive (Jensen and Warner, 1988). Jensen and Meckling (1976) examine the relation between firm value and insider equity ownership in an agency theory context and contend that agency costs decline as insider ownership rises since the financial interest of corporate insiders and shareholders increasingly converges. Consequently, with higher insider equity ownership, the value of a firm should increase. The implication of their model is that the relation between insider equity ownership and firm value is positive. Consistently, Hill and Snell (1988) find that both insider equity ownership and shareholder concentration are limiting influences on firm diversification efforts. They suggest that corporate insiders will undertake additional corporate diversification when their incentives are not congruent with the interest of stockholders. Besides, Huddart (1993) investigates to determine whether the value of a corporation is dependent upon the firm's ownership structure. Even though shareholders are able to obtain information about the manager's effort to produce output, it is costly to do so. Concentrating share ownership could lead the largest shareholders to (1) acquire more accurate information on the effort to produce output and (2) alter the remuneration packages of managers. Hence, output and thus the firm's value are increased with better monitoring. However, the higher the stake in the firm, the more the idiosyncratic risk borne by the large shareholders. These forces equilibrate at a unique welfare maximizing ownership structure. The results of these studies indicate a direct relation between insider share ownership and corporate strategies that enhance firm value.

Alternatively, some researchers have proposed that when insiders possess only minor interests in their firms, such ownership is positively associated with firm value. When insiders own substantial stake, however, they become entrenched because they possess sufficient influence to guarantee their employment (Demsetz, 1983; Fama and Jensen, 1983; Gibbs, 1993). The implication of such an argument is that the impact of insider equity ownership upon corporate value is negative, but only at high levels of insider ownership.

A number of studies have theoretically and empirically suggested divergent relationships between ownership structure and firm value. McConnell and Servaes (1990) conclude that the structure of equity ownership has nonmonotonic impact on firm value. Consistently, compared with non-family firms, those with the presence of founding family perform significantly better in terms of accounting and market performance (Anderson and Reeb, 2003a). The relation between founding family holding and firm performance is non-monotonic. That is, firm value increases as the level of insider ownership rises and then declines as insiders become entrenched. Johnson et al. (2006) note that the controlling shareholders expropriate minority shareholders' interest by transferring resources illegally through self-dealing transactions to benefit themselves and increasing share value of firms without transferring any resources. Mitton (2002) notes that when the magnitude of the divergence between cash flow and voting rights increases, it may negatively affect firm performance and increase the incentive for expropriation by controlling shareholders.

Studying the sample firms in East Asia, it is found that the majority of top managers are members of controlling families (Claessens et al., 2000). Lins (2003) also notes that, among East Asian firms, the excessive management control may lower firm's value. Based on this evidence, it is expected that Type II agency conflicts (between controlling shareholders and minority shareholders) should be relatively serious for Thai companies. Thus, I expect to find a negative association between family ownership and stock investment risk. Besides, the controlling shareholders can improve the accruals quality by restricting managers' ability to manage earnings. The controlling shareholders affect firm risk through quality of accounting information. Therefore, I formulate the following hypotheses.

H6a: Firms with higher proportion of family ownership will have lower stock investment risk.

H6b: There is an association between family ownership and the stock investment risk through accruals quality.

Although controlling ownership may be related to corporate wealth creation, institutional investors might also effect firm value through their influence on managerial decisions. Short-term oriented institutional investors pressure managers to achieve short-term profit goals at the expense of long-term equity value (e.g. Pound and Shiller, 1987; Porter, 1992; Bushee, 1998). In contrast, long term oriented institutional investors might effect firm value through their influence on managerial decision. Holderness and Sheehan (1985) and Barclay and Holderness (1991) have concluded that both institutional investors and large equity blockholders can

positively affect firm value. Consistently, Wright et al. (1996) show the evidence which indicates a significant and positive relation between the level of equity ownership by institutions and corporate risk taking for firms with growth opportunities. These results suggest that institutional investors enhance corporate value through their positive influence on growth-oriented risk taking. Malkiel and Xu (2001, 2003), in separate univariate analyses, suggest a link between idiosyncratic volatility and growth opportunities and also between idiosyncratic volatility and institutional investment. Finally, they show that idiosyncratic volatility is also positively related to expected earnings growth.

Besides, Jiambalvo, Rajgopal and Venkatachalam (2002) find a positive correlation between the proportion of institutional ownership and the extent to which stock prices lead earnings. Furthermore, conditional on the proportion of institutional ownership, the regression result of the stock returns on order backlog reveals that, compared to other owners, the institutional owners have greater influence over order backlog, which is in line with the view that institutional owners, in their prediction of future earnings, also use non-earnings information.

It is commonly agreed that institutional investors are sophisticated investors with better capabilities to obtain and process information, relative to individual investors (e.g. Kim, Krinsky, and Lee, 1997; Bartov, Radhakrishnan, and Krinsky, 2000). Hence, with such sophistication, institutional investors should be better able to predict future earnings with current-period information. This also implies that, as the number of institutional investors increase, current-period stock prices should mirror

more of the earnings information in the future period. Thus, I expect a negative association between institutional ownership and idiosyncratic risk and total risk. Besides, the institutional investors can improve the accruals quality by restricting managers' ability to manage earnings. The institutional investors affect firm risk through quality of accounting information. I formulate the following hypotheses.

H7a: Firms with higher proportion of institutional investors will have lower stock investment risk.

H7b: There is an association between institutional ownership and the stock investment risk through accruals quality.

2.3.4 External Corporate Governance Mechanism and Stock Investment Risk

Competitive positioning can influence the impact of company-specific shocks. A firm with monopoly power is able to pass on a bigger proportion of any idiosyncratic cost shock to its consumers. In contrast, a firm acting in a highly competitive industry can be driven out of business entirely if costs get much out of line with those of its competitor. There are a few research studies that look into the link between a firm's competitive environment and its idiosyncratic volatility such as that of Gaspar and Massa (2006) which investigates the link between a firm's competitive environment and the idiosyncratic volatility of its stock returns. The authors note that firms enjoying high market power, or established in concentrated industries, have lower idiosyncratic volatility. They posit that product market competition affects volatility in two distinct ways. First, market power works as a

hedging instrument that smoothes out idiosyncratic fluctuations. Also, market power lower information uncertainty for investors and therefore return volatility.

Therefore, I expect to find a negative association between product market competition and the stock investment risk. In addition, the product market competition can improve the accruals quality by effective monitoring of management. The product market competition affects firm stock investment risk through quality of accounting information. I formulate the following hypotheses.

H8a: Firms with higher market power will have lower stock investment risk.

H8b: There is an association between product market competition and the stock investment risk through accruals quality.

There is some evidence that media coverage related to stock return plays a role in reducing information asymmetry. Even after controlling for well-known risk factors, Fang and Peress (2009) find that stocks with no media coverage earn higher returns than those with high media coverage. Interestingly, these results are more noticeable among small stocks and stocks with high individual ownership proportion, low analysts' followings and high idiosyncratic risk. This leads to the conclusion that the stock returns are influenced by the breadth of disseminated information. In a similar vein, Bushee et al. (2010) have recently revealed that the increase in media coverage helps reduce the information asymmetry around earnings announcement period; broader dissemination of information has a greater impact than the quantity or quality of press-generated information. Their results are still robust even when they have controlled for firm-initiated disclosure, market reactions to the announcement,

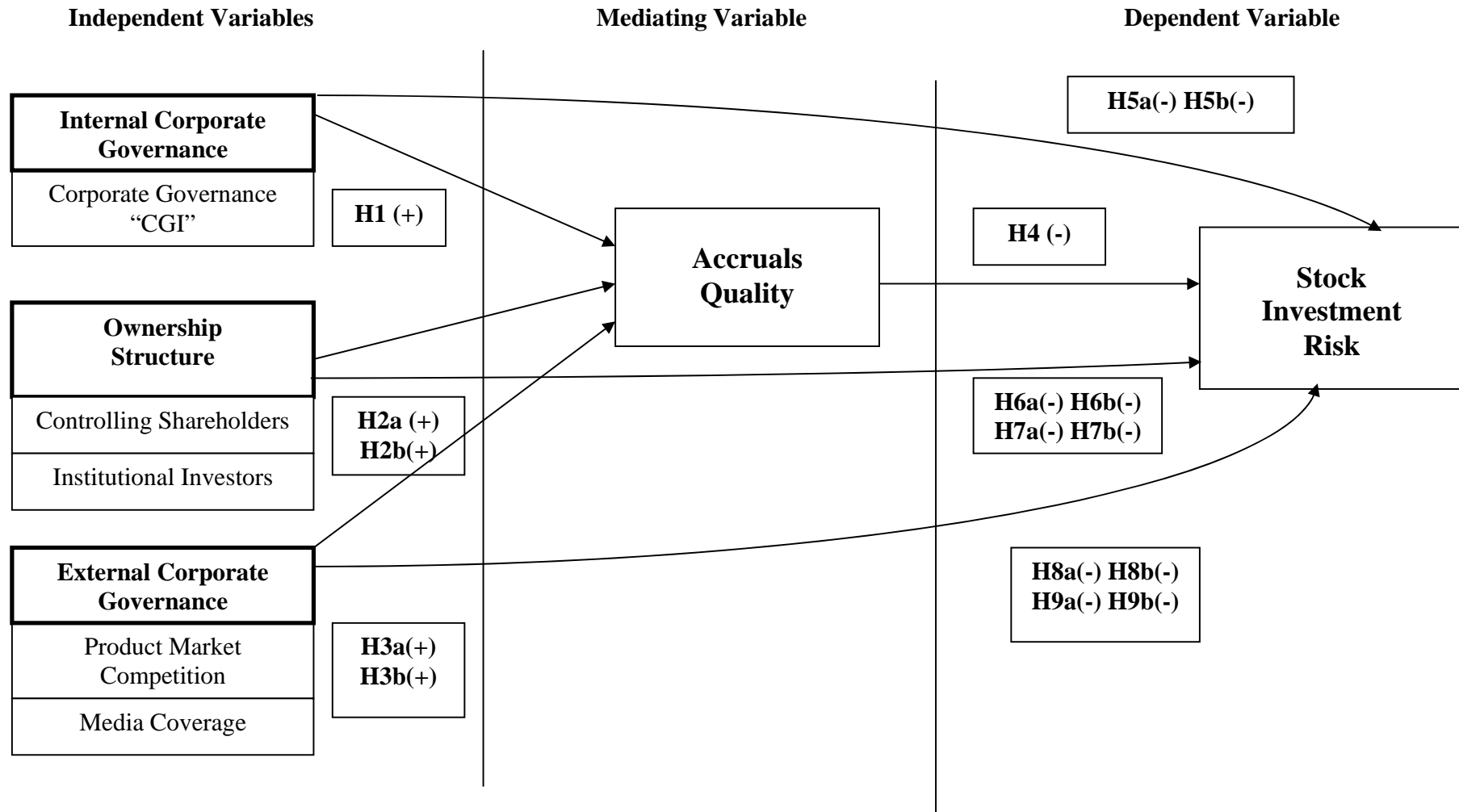
and other information intermediaries. Overall, their findings have suggested that the press play an important role in lessening the information asymmetry around earnings announcement date or period.

Media coverage acts as corporate governance by monitoring performance of firms and behaviors of managers. Thus, I expect that firms with more media coverage will have less stock investment risk. In addition, the media coverage can improve the accruals quality through reputation cost of managers. The media coverage affects firm stock investment risk through quality of accounting information. I formulate the following hypotheses.

H9a: Firms with more media coverage will have lower stock investment risk.

H9b: There is an association between media coverage and the stock investment risk through accruals quality.

2.4 CONCEPTUAL FRAMEWORK



CHAPTER III

RESEARCH DESIGN

The hypotheses investigated in this dissertation and the specific research tools and methods employed to test the hypotheses are addressed in this chapter. The terminology, sample selection procedures, and model specification are discussed, and data sources are disclosed. Also presented in Chapter III are simple correlation analysis and statistical techniques, including multiple regression analysis.

3.1 SAMPLE SELECTION AND DATA

3.1.1 Sample Selection

In 2006 the Stock Exchange of Thailand (SET) revised the principles of Good Corporate Governance so as to enhance corporate governance in Thailand. Data are those of the years 2007 to 2009 of the samples of listed companies in the Stock Exchange of Thailand (SET).

First, companies in financial services and insurance industries are excluded from the samples of listed companies in the study because of different corporate governance and the former's stricter accounting policies (Pathan, Skully and Wickramanayake, 2007). Furthermore, they are subject to monitoring by banking and financial regulatory bodies. Besides, listed companies under rehabilitation and real estate funds are excluded from the samples. Because financial reporting requirements and characteristics of business operation are different from others companies.

Second, companies whose fiscal year-ends do not fall on 31st December are excluded from the samples. The December fiscal year end is used to ensure that the samples in the study are subject to the similar market conditions.

Finally, companies with fewer than 24 monthly returns data or with incomplete financial data are excluded from the samples since the measurement of stock investment risk requires a minimum of 24 monthly returns data to estimate. Besides, the accruals quality is estimated using rolling ten-year windows. The companies without ten-year windows data are excluded from the samples.

Table 3.1 presents the final samples of this study, comprises 721 observations from year 2007 to 2009.

Table 3.1
Sample Selection

	Observations
	Total
Listed companies in the Stock Exchange of Thailand during 2007 – 2009 from Fact Books and SET SMART	1,424
Less:	
Companies in financial industry	192
Companies under rehabilitation	80
Real estate funds	<u>63</u>
	1,089
Non-December fiscal year-end companies	69
Incomplete monthly return and missing financial data	19
Companies lacking ten-year windows data	271
Outlier data	<u>9</u>
Final Sample	<u>721</u>

3.1.2 Accounting, Return and Corporate Governance Mechanisms Data

Accounting data and return data are retrieved from DataStream. The accounting data from consolidated financial statements are used since such financial statements could present the outcomes of the overall activities of a firm and its subsidiaries rather than the activities of one single firm as shown in separate financial statements.

The corporate governance variables are mostly gleaned from firms' annual corporate reports and annual registration forms (Form 56-1) published in The SET Market Analysis and Reporting Tool (SETSMART). The company's annual report provides detailed ownership data that include the top 10 shareholders. The report also provides a list of a firm's affiliated companies and the shareholdings. The ownership information of non-listed companies is retrieved from the Business on Line (BOL), which has been awarded a license from Ministry of Commerce to reproduce the accounting and ownership information of all companies registered with the Commerce Ministry.

For family ownership data, this study treats all family members as well as those companies ultimately owned by these family members as a single shareholder to account for the fact that it is a common practice in Thailand for a business to be closely tied to an extensive family. Therefore, a shareholder includes individuals with the same surname as well as individuals that are linked to the family by marriage, including spouses, children, siblings and parents. Since surnames in Thailand are unique and are used by only family members who are related to the family names, surnames can then be used to trace family relationships.

This study uses the number of news articles as a proxy of media coverage. News articles are hand-collected from the SET Smart database and NEWSCENTER database. The news articles of the firms that are published in SET news are obtained from the SET Smart database while the news articles from the business press are retrieved from the NEWSCENTER database, which contains every news article published in Thailand.

3.2 Model Specification

3.2.1 Model Test: The Association between Corporate Governance Mechanisms and Accruals Quality

Prior studies (e.g. Klein, 2002; Xie et al., 2003; Peasnell et al., 2005; Bowen et al., 2008; Pornupatham, 2008) examine the effect of corporate governance variables on the accounting discretionary accruals or accruals quality by estimating the following regression model:

$$Accounting\ discretion_{i,t} = \beta_0 + \beta_j CG\ Variables_{j,i,t} + \sum_{k=1}^K \eta_k Control_{k,i,t} + \varepsilon_{i,t}$$

This study investigates the association between corporate governance mechanisms and accruals quality (AccQ) by estimating the following regression model.

$$\begin{aligned} AccQ_{i,t} = & \beta_0 + \beta_1 CGI_{i,t} + \beta_2 F_OWN_{i,t} + \beta_3 INS_OWN_{i,t} + \beta_4 H-Index_{i,t} \\ & + \beta_5 IPCM_{i,t} + \beta_6 MEDIA_{i,t} + \beta_7 BIG4_{i,t} + \beta_8 SIZE_{i,t} \\ & + \beta_9 LEV_{i,t} + \beta_{10} CFO_{i,t} + \beta_{11} Y08_{i,t} + \beta_{12} Y09_{i,t} + \varepsilon_j \end{aligned} \quad \text{(Model 1)}$$

The definition of variables are given in Table 3.2

3.2.2 Model Test: The Association between Accruals Quality and Stock Investment Risk

Prior studies examine the association between accruals quality and proxies for cost of capital: cost of debt and cost of equity and return volatilities by using the following regression model (Francis et al., 2004, 2005; Rajgopal and Venkatachalam, 2009).

$$Cost\ of\ Capital_{j,t} / RETURN\ VOLATILITIES_{j,t} = \theta_0 + \theta_1 AQ_{j,t} + \sum_{l=1}^L \theta_l Control_{l,j,t} + \zeta_{j,t}$$

$AQ_{j,t}$ = Accruals quality

Besides, Ashbaugh-Skaife et al., 2009 investigate the effect of SOX internal control deficiencies on firm risk and cost of equity by estimating the following model:

$$FIRM\ RISK_{k,t} = \gamma_0 + \gamma_1 ICD_{k,t} + \sum_{m=1}^M \omega_m Control_{m,k,t} + \nu_{k,t}$$

$ICD_{k,t}$ is coded as one if the firm report an internal control problem, and zero otherwise.

This study investigates the association between accruals quality and stock investment risk using an ordinary least squares (OLS) regression that controls for other factors that prior research shows to be related to stock investment risk (Rajgopal and Venkatachalam, 2005, 2009; Ashbaugh-Skaife et al. 2009). Because of different measures between idiosyncratic risk and total risk, two control variables, i.e. covariance of firm's cash flows with market cash flow and industry beta, are added to total risk model. Thus, I divide the models to analyze the association between accruals quality and stock investment risk into Model (2), i.e. idiosyncratic risk model (I_RISK) and Model (3), i.e. total risk model (TT_RISK).

$$\begin{aligned} I_RISK_{i,t} = & \delta_0 + \delta_1 AccQ_{i,t} + \delta_2 SIZE + \delta_3 LEV_{i,t} + \delta_4 CFO_{i,t} \\ & + \delta_5 STD_CFO_{i,t} + \delta_6 BM_{i,t} + \delta_7 DIVPAYER_{i,t} \\ & + \delta_8 RET_{i,t} + \delta_9 Y08_{i,t} + \delta_{10} Y09_{i,t} + \varepsilon_j \end{aligned} \quad \text{(Model 2)}$$

$$\begin{aligned}
TT_RISK_{i,t} = & \delta_0 + \delta_1 AccQ_{i,t} + \delta_2 SIZE + \delta_3 LEV_{i,t} + \delta_4 CFO \\
& + \delta_5 STD_CFO_{i,t} + \delta_6 BM_{i,t} + \delta_7 DIVPAYER_{i,t} \\
& + \delta_8 RET_{i,t} + \delta_9 COVCFO_{i,t} + \delta_{10} INDBETA_{i,t} \quad \text{(Model 3)} \\
& + \delta_{11} Y08_{i,t} + \delta_{11} Y09_{i,t} + \varepsilon_j
\end{aligned}$$

The definition of variables are given in Table 3.2

3.2.3 Model Test: The Association between Corporate Governance Mechanisms and Stock Investment Risk

Prior study investigates the relation between internal control weakness reporting and stock investment risk by using the multiples regression model as discussed before (Ashbaugh-Skaife et al. 2009). This study also uses an ordinary least square regression to examine the association between corporate governance mechanisms and stock investment risk. Because of different control variables in analysis of idiosyncratic risk and total risk, two different models are employed to explore the association between corporate governance mechanisms and stock investment risk, i.e. idiosyncratic risk (I_RISK) and total risk (TT_RISK) in models (4) and (5), respectively.

$$\begin{aligned}
I_RISK_{i,t} = & \gamma_0 + \gamma_1 CGI_{i,t} + \gamma_2 F_OWN_{i,t} + \gamma_3 INS_OWN_{i,t} \\
& + \gamma_4 H_Index_{i,t} + \gamma_5 IPCM_{i,t} + \gamma_6 MEDIA_{i,t} \\
& + \gamma_7 SIZE_{i,t} + \gamma_8 LEV_{i,t} + \gamma_9 CFO_{i,t} + \gamma_{10} STD_CFO_{i,t} \\
& + \gamma_{11} BM_{i,t} + \gamma_{12} DIVPAYER_{i,t} + \gamma_{13} RET_{i,t} \quad \text{(Model 4)} \\
& + \gamma_{14} Y08_{i,t} + \gamma_{15} Y09_{i,t} + \varepsilon_j
\end{aligned}$$

$$\begin{aligned}
TT_RISK_{i,t} = & \gamma_0 + \gamma_1 CGI_{i,t} + \gamma_2 F_OWN_{i,t} + \gamma_3 INS_OWN_{i,t} \\
& + \gamma_4 H_Index_{i,t} + \gamma_5 IPCM_{i,t} + \gamma_6 MEDIA_{i,t} \\
& + \gamma_7 SIZE_{i,t} + \gamma_8 LEV_{i,t} + \gamma_9 CFO_{i,t} + \gamma_{10} STD_CFO_{i,t} \\
& + \gamma_{11} BM_{i,t} + \gamma_{12} DIVPAYER_{i,t} + \gamma_{13} RET_{i,t} + \gamma_{14} COVCFO_{i,t} \text{ (Model 5)} \\
& + \gamma_{15} INDBETA_{i,t} + \gamma_{16} Y08_{i,t} + \gamma_{17} Y09_{i,t} + \varepsilon_j
\end{aligned}$$

The definition of variables are given in Table 3.2

3.2.4 Model Test: The Association between Corporate Governance Mechanisms and Stock Investment Risk through Accruals Quality

To examine the association between corporate governance mechanisms and stock investment risk, i.e. idiosyncratic risk and total risk through accruals quality, using simple correlations, Models (4) and (5) are used to examine the direct effect of corporate governance mechanisms on idiosyncratic risk and total risk, respectively. Meanwhile, Models (2) and (3) are used to test whether accruals quality is associated with idiosyncratic risk and total risk and whether accruals quality acts as the mediating variable. Model (1) is used to investigate the effects of corporate governance mechanisms on accruals quality.

Corporate governance mechanisms are considered to be indirectly and negatively associated with stock investment risk, i.e. idiosyncratic risk and total risk through accruals quality, if (a) each corporate governance mechanism in model (1) is significantly positively or negatively related to accruals quality, and (b) the accruals quality in models (2) and (3) is significantly negatively associated with idiosyncratic risk and total risk, respectively. The indirect effects of each corporate governance mechanism can be computed as the product of the standardized coefficient of each

corporate governance mechanism in model (1) and those of accruals quality in models (2) and (3).

Standardized coefficient γ_j is expected to be unequal to the product of standardized coefficient β_k and standardized coefficient δ_1 .

$$\text{Std coeff}(\gamma_j) - [\text{std coeff}(\beta_k) \times \text{std coeff}(\delta_1)] \neq 0$$

All variables investigated in this study are summarized in Table 3.2.

Table 3.2
Summary of Definitions of Variables

Variables	Definition
Dependent Variables	
AccQ	The accruals quality
I_RISK	Idiosyncratic risk
TT_RISK	Total risk
Independent Variables	
CGI	Corporate governance index
F_OWN	Percentage of firm's shares held by a single shareholder or members of his or her family by either blood or marriage either individually or as a group.
INS_OWN	Percentage of firms' shares held by institutional investors
H-Index	The Herfindahl index
IPCM	The industry-adjusted price-cost margin
MEDIA	Number of articles published in the SET news and press releases

(Continued on Page81)

Table 3.2 (Continuing from Page 80)**Summary of Definitions of Variables**

Variables	Definition
Control Variables	
BIG4	Dummy variable for auditor type equal to one for a Big 4 audit firm and zero otherwise
SIZE	The natural logarithm of firm market value of equity
LEV	Total debts scaled by total assets at the beginning of the fiscal year
CFO	Cash flow from operations divided by total assets at the beginning of the fiscal year
STD_CFO	The five-year standard deviation of cash flow from operations divided by total assets
BM	Book value of equity divided by market value of equity
DIVPAYER	Define value as one if the firm pays dividends, and zero otherwise
RET	The buy-and-hold return over the firm's fiscal year
COVCFO	Covariance of the firm's cash flows with the market cash flow
INDBETA	Industry beta
Y08	One if firm i is in year 2008, and zero otherwise
Y09	One if firm i is in year 2009, and zero otherwise

3.3 HYPOTHESES AND TEST OF SIGNIFICANT

Multiple regression analysis is used to investigate the following associations:

1. The association between corporate governance mechanisms and accruals quality.
2. The association between accruals quality and stock investment risk.
3. The association between corporate governance mechanisms and stock investment risk.

The F and adjusted R^2 statistics in multiple regression are used to test statistic significance and substantive significant of the association between the dependent variable and the independent variables. The t-statistic is commonly used to test the significance of individual multiple regression coefficients for each independent variable.

Hypotheses number 1, 2a, 2b, 3a and 3c are set in order to examine the association between corporate governance mechanisms and accruals quality.

H1: Firms that have good internal corporate governance are expected to have higher accruals quality.

H2a: Firms with higher proportion of family ownership are expected to have higher accruals quality.

H2b: Firms with higher proportion of institutional ownership are expected to have higher accruals quality.

H3a: Firms with higher market power are expected to have higher accruals quality.

H3b: Firms with more media coverage are expected to have higher accruals quality.

Model 1 is employed to test hypotheses number 1, 2a, 2b, 3a and 3c, as the main issues of testing here are the sign of coefficients of variables that are of interest.

Hypothesis number 4 is set in order to examine the association between accruals quality and stock investment risk.

H4: The stock investment risk of firms with better accruals quality is lower than that of firms with poorer accruals quality.

Model 2 and 3 are employed to test hypothesis number 4, as the main issue of testing here are the sign of coefficients of variables that are of interest.

Hypotheses number 5a, 6a, 7a, 8a and 9a are set in order to examine the direct effects of corporate governance mechanisms on stock investment risk. Besides, hypotheses number 5b, 6b, 7b, 8b and 9b are set in order to examine the indirect effects of corporate governance mechanisms on stock investment risk through accruals quality.

H5a: Firms with better internal corporate governance will have lower stock investment risk.

H5b: There is an association between internal corporate governance and stock investment risk through accruals quality.

H6a: Firms with higher proportion of family ownership will have lower stock investment risk.

H6b: There is an association between family ownership and the stock investment risk through accruals quality.

H7a: Firms with higher proportion of institutional investors will have lower stock investment risk.

H7b: There is an association between institutional ownership and the stock investment risk through accruals quality.

H8a: Firms with higher market power will have lower stock investment risk.

H8b: There is an association between product market competition and the stock investment risk through accruals quality.

H9a: Firms with more media coverage will have lower stock investment risk.

H9b: There is an association between media coverage and the stock investment risk through accruals quality.

Modes 4 and 5 are employed to test hypotheses number 5a, 6a, 7a, 8a and 9a, as the main issue of testing here are the sign of coefficients of variables that are of interest.

In addition, simple correlation is applied to test hypotheses number 5b, 6b, 7b, 8b and 9b examining the association between corporate governance mechanisms and stock investment risk through accruals quality.

3.4 MEASUREMENT OF INDEPENDENT VARIABLES

3.4.1 Measurement of Corporate Governance Index “CGI”

The corporate governance composite index is used to measure its respective effects on firm’s accruals quality and stock investment risk. The corporate governance rating criteria are constructed by Connelly et al. (2008) to score corporate governance practices of firms. This study uses Connelly et al. (2008) criteria, rather than the existing criteria (e.g. Gompers et al. 2003; Cremers et al. 2005; Brown and Caylor, 2006; Ferreira and Laux, 2007) because these measures of corporate governance may not be suitable for Thailand emerging market economy and their corporate governance indices are established primarily from provisions of anti-takeover and shareholders voting rights. Offensive takeovers are scarce to find in the Thai market mainly due to concentrated ownership and unique institutional settings.

The corporate governance index constructed by Connelly et al. (2008) to determine the overall corporate governance practices is scored from a total of 117 separate criteria based on the OECD’s (the Organization of Economic Cooperation and Development) five Corporate Governance Principles (OECD 2004) and adjusted to reflect the subtleties of Thai laws and regulations. The criteria covers five parts of the OECD corporate governance principles: the rights of shareholders (25%), equitable treatment of shareholders (15%), role of stakeholders (10%), disclosure and transparency (25%), and board responsibilities (25%). The OECD Principles of Corporate Governance and Principles of Good Corporate Governance for listed companies in Thailand are shown in the Appendix B.

Their corporate governance index has two important strengths: (1) theirs is better than conventional proxies for corporate governance since the former evaluates the actual quality of corporate governance practices. In addition, it ranks the quality level as poor if the observed practices are missing, good if the practices reach to the level required by law, or best if they reach to the international best practices; and (2) the development of their index is based economic and financial research findings and theories which have been employed and tested in many prior research works (Connelly et al., 2008).

Firms' corporate governance practices are scored using data gleaned from a wide variety of public information sources because of its ease of access by general investors. Examples of the information sources are firms' annual registration forms (Form 56-1), corporate annual reports, Securities and Exchange Commission and Stock Exchange of Thailand filings, minutes of annual shareholders' meetings, articles of association, company by-laws, and company websites.

In the assessment procedure, firms get a "poor" score if a specific scoring criterion is omitted or followed, receive a "fair" score if the legal compliance standard requirements are fulfilled, and earn the highest score if they exceed the regulatory requirements and/or achieve the international standards. Each criterion with its maximum score pre-assigned is assessed. Firms are given scores for the level of compliance with the criteria either as "Poor", "Fair" or "Highest". The scores pre-assigned to different criteria are not identical. The details of criteria are available in Appendix A. The summation of the scores of all five principles is computed and

divided by maximum score of each principle, and then multiplied by the percent of corporate governance index. Once the assessment is complete, the Index is a measure of the sum across five sub-sections, ranging from 0 to 100. Table 3.3 shows computation of the corporate governance index

Table 3.3
Scoring of Corporate Governance Index

Principles	Number of Criteria	Maximum Score	Percent of CGI	Computation
1. Rights of shareholders	22	42	25	(Score/42) x 25
2. Equitable treatment of shareholders	13	24	15	(Score/24) x 15
3. Role of stakeholders in corporate governance	9	14	10	(Score/14) x 10
4. Disclosure and transparency	32	40	25	(Score/40) x 25
5. Responsibility of the board	41	50	25	(Score/50) x 25
Total	117	170	100	0-100

3.4.2 Measurement of Family Ownership “F_OWN”

The literature on family business is wide-ranging but no distinguishing is made on the exact definition of a founding family and a family firm. Anderson and Reeb (2003) define a founding family in the U.S. as fractional equity ownership of the founder family and/or the presence of family members serving on the board of directors. Ang et al. (2000) define a family firm in the U.S. as a firm with a single family that controls more than 50% of the firm’s shares. Claessens et al. (2002) define

family firms in nine different East Asian countries as family groups that control more than 5% of the company's votes. According to Faccio and Lang (2002), family firms in 13 Western European countries in their study are defined as a family or an individual or an unlisted firm which owns more than 20% of either control rights or cash flow right more than 20%. Barth, Gulbrandsen and Schonea (2005) define a family firm in Norway as one person or one family that controls more than 33%.

Recently, Kuntisook (2008) used Thai data to study the relation between accounting conservatism and controlling shareholder characteristics. He defines founding family firms and family firms as firms in which a single shareholder or members of his or her family by either blood or marriage have shares at least 10% of the firms' equity.

This paper defines family ownership as percentage of firm's shares held by single ultimate shareholder or members of his or her family related to by blood or marriage either individually or as a group.

3.4.3 Measurement of Institutional Ownership "INS_OWN"

Prior studies use the proportion of shares held by institutional investors such as insurance companies, banks, pensions, mutual funds, and investment banks as a proxy of institution ownership (Koh, 2003, 2007; Baek, Kang and Park, 2004; Bushman et al., 2004; Khanchel, 2007; Lee and Park, 2008). In order to mitigate the possibility of non-normality problems in the data, this study employs the percentage of shares held by institutional investors as a proxy for institutional ownership instead of using a dummy variable to indicate firms with institutional investors as controlling shareholders.

3.4.4 Measurement of Product Market Competition

This study employs two different approaches to measuring product market competition, i.e. the Herfindahl index (H-index) and an industry-adjusted price-cost margin (IPCM). The Herfindahl index of concentration is the first measurement that is used to measure the degree of competition among firms in an industry. Holmström (1982) and Nalebuff and Stiglitz (1983) propose that moral hazard problems could be reduced if the number of competitors in a market increases and the shocks affecting each firm's costs are correlated. Schmidt (1997) notes that with higher competition and liquidation probability, the increase in competition among firms can be used to discipline managers. The Herfindahl index is therefore suitable for use to measure the industry-level product market competition in both cases above. The product market competition is regarded as strong if there are a greater number of firms competing in the same industry with each firm holding a small market share. It is held that a lower Herfindahl index denotes that there are many competitive firms in a particular industry and a higher Herfindahl index means that only a few firms, mainly large ones, dominate the market. Chou (2008), for example, uses the Herfindahl index to measure product market competition at both firm and industry levels and then finds that firms with weak corporate governance are those in competitive industries or with little market power.

The Herfindahl index (H-index) is expressed as:

$$H - index_i = \sum_{j=1}^J s_{ij}^2$$

where:

s_{ij} is the annual market share of firm j in industry i .

Annual market share is calculated by dividing the net sales of a firm in any single year by its industry's total sales of the same year. To minimize the possible errors inherent in the data, this computational method is applied to each industry for each year and then the resulting values of the past three years are averaged to define the H-index of the industry at the industry-level analysis (Chou, 2008).

For analysis at the firm level, the industry-level H-index is assigned to a firm to determine the intensity of its product market competition if the Herfindahl index is the measure of competition.

Based on the concept of the Lerner index, an industry-adjusted price-cost margin (IPCM) is employed as the second measure of product market competition. This measurement is widely used in economic literature as it can measure a firm's ability to price above marginal cost and thus determine pricing power of the firm. A firm with little or no (strong) pricing power would face strong (little) product market competition and thus tends to have a high (low) probability of bankruptcy. The examples of empirical studies that employ the Lerner index or a similar methodology to measure product market competition are the studies by Nickel (1996), Grosfeld and Tressel (2002), Januszewski, Köke and Winter (2002), Gaspar and Massa (2006), and Chou (2008). Therefore, this paper expects that the IPCM is a good proxy for product market competition at the firm level. The lower a firm's IPCM, the higher the degree of competition from the product market.

A firm's price-cost margin (PCM) is defined as:

$$PCM_i = \frac{profit_{it}}{sales_{it}}$$

where profit is computed as sales minus the sum of the cost of goods sold and selling, general and administrative expenses.

$$profit_{i,t} = \text{Sales} - (\text{Cost of goods sold} + \text{Selling expenses} + \text{Administrative expenses})$$

A firm's industry-adjusted price-cost margin is calculated by subtracting the industry average PCM from its PCM where industries are based on the Stock Exchange of Thailand classification.

$$IPCM_i = PCM_i - \text{Industry Average PCM}$$

3.4.5 Measurement of Media Coverage “MEDIA”

In order to test hypotheses about the effect of media coverage on firms' stock investment risk, samples of a dataset on media coverage are hand-collected from the SET Smart database. The media coverage is displayed under the title of company news. Data on media coverage are also gathered from BangkokBiz News and Manager News because the two newspapers are the first- and second-ranked business newspapers in investors' opinions (Sermniparat, 1990). The number of articles published in the SET News, the BangkokBiz News and the Manager News in which the firm names were mentioned in the titles or leading paragraphs for a given year is recorded. Nevertheless, this study excludes the republished news, articles devoted to sports, obituaries and calendars, which are unrelated to firms' performance or managerial actions. By so doing, a proper measurement of the press coverage given

to a particular firm, which reflects the media scrutiny of the manager and firm's performance, is derived.

This study uses the number of articles published in the SET news and press releases as a proxy of media coverage instead of using the amount of information. Bushee et al. (2010) note that the number of articles is highly correlated with the word count ($r=0.87$) and find very similar results when using the number of articles in place of word count and vice versa. Thus, they suggest that the amount of information can be proxied by the number of articles. Moreover, there are several empirical studies employing the number of articles to measure the media coverage such as those of Knyazeva (2007), and Fang and Peress (2009). In this study, if the same article is published in more than one source of media, it will be counted as one article.

3.5 MEASUREMENT OF DEPENDENT VARIABLES

This section details the measurement of dependent variables i.e. the accruals quality and stock investment risk.

3.5.1 Measurement of Accruals Quality (AccQ)

The accruals quality metric is based on McNichols (2002) modification of Dechow and Dichev's (2002) model. His model attempts to determine the quality of accruals by looking at their association with cash flows by regressing working capital accruals on cash flow from operations in the current period, prior period, and future period, as well as the change in revenues and property, plant, and equipment (PPE). The residual of the regression is the unexplained portion of the variation in working capital accruals and is employed as an inverse measure of accruals quality. That is, the greater the portion of unexplained variation, the lower the accruals quality.

$$TCA_{j,t} = \phi_{0,j} + \phi_{1,j}CFO_{j,t-1} + \phi_{2,j}CFO_{j,t} + \phi_{3,j}CFO_{j,t+1} + \phi_{4,j}\Delta Rev_{j,t} + \phi_{5,j}PPE_{j,t} + v_{j,t} \quad (1)$$

All variables are scaled by average total assets $(Assets_{j,t} + Asset_{j,t-1})/2$

where:

$TCA_{j,t}$ = firm j's total current accruals in year t

$$=(\Delta CA_{j,t} - \Delta CL_{j,t} - \Delta Cash_{j,t} + \Delta STDEBT_{j,t})$$

$CFO_{j,t-1}$, $CFO_{j,t}$, $CFO_{j,t+1}$ = firm j's cash flow from operations in
year t-1, t, and t+1, respectively

$\Delta CA_{j,t}$ = 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 short-term debt between year t-1 and year t

$\Delta Rev_{j,t}$ = firm j's change in revenues between year t-1 and year t

$PPE_{j,t}$ = firm j's gross value of property, plant and equipment in year t

For each firm-year, I estimate Equation (1) using rolling ten-year windows. These estimations yield ten firm- and year-specific residuals, $v_{j,t}$ $t = t - 9, \dots, t$, which form the basis for the accruals quality measure, and $AccQ_j = \sigma(\hat{v}_{j,t})$ is the standard deviation of firm j's residuals, with the larger standard deviations indicating poorer accruals quality (Francis et al., 2004). I multiply $AccQ_j$ with -1 so that higher value of the new measure indicates higher accruals quality. $AccQ_j$ is my proxy for accruals quality.

3.5.2 Measurement of Stock Investment Risk

Risk measuring is useful for investors in decision making about investment in their portfolio of securities. Markowitz (1952, 1959) defines the riskiness of a portfolio of assets in terms of the variance of the portfolio's return $[\sigma^2(R_p)]$. The variance of return is the appropriate measure of risk under certain conditions as follows:

1. That the utility functions of the investor have the following properties:
 - a. The first derivative be positive and
 - b. The second derivative be negative (i.e., a risk averse utility function for wealth); and

2. That the return distributions of individual securities are stable with a finite variance (i.e., a normal distribution)

Markowitz model asserts that the variance of portfolio return is composed of two factors.

$$\begin{aligned}\sigma^2(R_p) &= (1/N) \overline{\sigma^2(R_i)} + \left(\frac{N-1}{N}\right) \overline{\sigma(R_i, R_j)} \\ &= \frac{1}{N} \text{average variance} + \left(\frac{N-1}{N}\right) \text{average covariance}\end{aligned}$$

where:

$\sigma^2(R_p)$ = variance of portfolio's return.

$\overline{\sigma^2(R_i)}$ = mean of the variance of the individual securities in the portfolio,

$$\frac{\sum_{i=1}^N \sigma^2(R_i)}{N}$$

$\overline{\sigma(R_i, R_j)}$ = mean of the covariance of each individual securities with every other securities

$$\frac{\sum_{i=1}^N \sum_{j=1, j \neq i}^N \sigma(R_i, R_j)}{N(N-1)}$$

N = number of securities in portfolio.

As the number of securities increases, the first term converges to zero. Then the second term converges to the average covariance among the securities that comprise the portfolio.

To mitigate the enormous amount of parameter estimation of the Markowitz model, Sharpe (1963) has offered the diagonal model which specifies the following relations:

$$\tilde{R}_i = \alpha_i + \beta_i \tilde{R}_M + \tilde{\varepsilon}_i$$

$$E(\tilde{\varepsilon})=0 \quad \sigma(\tilde{R}_M, \varepsilon_i)=0 \quad \sigma(\tilde{\varepsilon}_i, \tilde{\varepsilon}_j)=0$$

\tilde{R}_i = return on securities i ,

\tilde{R}_M = return on all other capital assets in the market (hereafter referred to as the “market return”)

$\tilde{\varepsilon}_i$ = an individualistic factor reflecting that portion of securities i 's return which is not a linear function of R_M

α_i, β_i = intercept and slope associated with the linear relation.

The model confirms that the return on individual securities is composed of two elements. The first element is an individualistic component ($\alpha_i + \varepsilon_{it}$), which reflects that residual portion of the securities return that moves independently of the market-wide return. The second element is systematic component ($\beta_i R_{Mt}$), which reflects common movement of the return of single securities with the average return of all other securities in the market.

$$\sigma^2(R_p) = \left(\frac{1}{N}\right) \overline{\sigma^2(\varepsilon_i)} + (\bar{\beta})^2 \sigma^2(R_M)$$

where:

$\overline{\sigma^2(\varepsilon_i)}$ = mean of the variance of the individualistic factors

$$\bar{\beta} = \text{mean of } \beta_i \text{'s} = \sum_{i=1}^N \beta_i$$

$\sigma^2(R_M)$ = variance of the market return, R_M

For individual securities,

$$\sigma^2(R_i) = \sigma^2(\varepsilon_i) + \beta_i^2 \sigma^2(R_M)$$

$$\beta_i \cong \frac{\sigma(R_i, R_M)}{\sigma^2(R_M)}$$

where:

$\sigma(R_i, R_M)$ = covariance of security i's return with the market return

$\sigma^2(R_M)$ = variance of the market return

Of both Markowitz model (Markowitz, 1952 and 1959) and diagonal model (Sharpe, 1963), the variance of securities return can be decomposed into two components. The first component is called the individualistic or idiosyncratic or avoidable risk of securities because the risk can be driven to zero by increasing the number of securities in the portfolio, i.e., portfolio diversification. The second component is called systematic risk or unavoidable risk of the securities and measures the securities sensitivity to market-wide events. The systematic risk cannot be diversified by portfolio diversification. In this paper, the variance of return is the appropriate measure of risk. The market model is used in calculating the stock investment risk, i.e., idiosyncratic risk, systematic risk, and total risk as below:

From Market model
$$R_{jt} = \alpha_j + \beta_j R_{mt} + e_{jt} \quad (2)$$

Take the variance: *Var* in equation (2)

$$\begin{aligned} \text{Var}(R_{jt}) &= \text{Var}(\alpha_j + \beta_j R_{mt} + e_{jt}) \\ &= \text{Var}(\beta_j R_{mt}) + \text{Var}(e_{jt}) \end{aligned}$$

$$\text{Var}(R_{jt}) = \beta_j^2 \text{Var}(R_{mt}) + \text{Var}(e_{jt})$$

Total Risk = Systematic Risk + Idiosyncratic Risk

Equation (2) is estimated by using monthly returns requiring a minimum of 24 and maximum of 60 observations over the current year and the four prior fiscal years. Monthly returns are used to estimate equation (2) to mitigate the bias in BETA due to infrequent trading (Dimson, 1979).

Formula to compute beta β_j is as follows:

$$\beta_j = \frac{\text{Cov}(R_{jt}, R_{mt})}{\text{Var}(R_{mt})}$$

Systematic Risk is $\beta_j^2 \text{Var}(R_{mt})$

$$\text{Idiosyncratic Risk is } \text{Var}(e_{jt}) = \frac{\sum_{t=1}^n [R_{jt} - (\alpha_j + \beta_j R_{mt})]^2}{n-1}$$

$$\text{Total Risk is } \text{Var}(R_j) = \frac{\sum_{t=1}^n (R_{jt} - \bar{R}_{jt})^2}{n-1}$$

n = number of monthly returns of securities j requiring a minimum of 24 observations and maximum of 60 observations

Prior literature found that beta lacks explanatory power when attempting to model the annual returns on US stocks from 1963 through 1990. In addition, it is found that a stock's idiosyncratic risk has a strong positive relation with returns and investors should not be compensated for investing in assets with high idiosyncratic or unique risk (Fama and French, 1992; Malkiel and Xu, 1997). Besides, Goyal and

Santa-Clara (2003) argue that the lack of investor diversification means that for many investors the relevant measure of risk the firm's total risk.

In this paper, the dependent variables are stock investment risk, i.e., idiosyncratic risk (I_RISK) and total risk of the firms (TT_RISK) in the Stock Exchange of Thailand (SET) during the years 2007 and 2009.

3.6 Control Variables for Analysis of Accruals Quality and Stock Investment Risk

Control variables used in both analyses of accrual quality and stock investment risk are firm size, leverage, and cash flow from operations. A summary of control variables for analysis of accruals quality and stock investment risk is presented in Table 3.4 and Table 3.5, respectively.

3.6.1 Firm Size "SIZE"

Firm size is used as a control variable in analysis of accruals quality. Due to political hypothesis, large firms have incentives to manage income downward when they are doing extremely well (Watts and Zimmerman, 1978, 1986). The positive accounting theory suggests that managers of large and politically sensitive firms are more likely to do decreasing earnings management by exploiting the latitude in accounting in order to reduce political costs and, moreover, since these costs ostensibly vary with risk, high risk firms have greater incentives to exploit this latitude (Zmijewski and Hagerman, 1981).

Besides, I also use firm size as control variable in analysis of firm risk because Ferreira and Laux (2007) find the evidence that size which is measured by equity capitalization has a negative correlation with idiosyncratic volatility. They note that large firms are expected to be less risky, consistent with Ashbaugh-Skaife et al. (2009) who document that large firms have less risk.

Therefore, a negative relation among accruals quality, stock investment risk and firm size is predicted. The size of a firm here is the natural logarithm of the firm's market value of equity.

3.6.2 Leverage “LEV”

Leverage is included as a control variable in the model of accruals quality to lessen the constraint from the debt covenants. Consistent with the debt/equity hypothesis, managers have incentives to manage earnings upward to improve financial ratios to prevent the violation of debt covenants (Watts and Zimmerman, 1986). In addition, DeFond and Jiambalvo (1994) note that default debt covenant firms have positive discretionary accruals one year prior to the covenant violation. They interpret this as evidence of earnings management by firms that are close to their debt covenants.

Moreover, leverage is included in stock investment risk analysis because the previous research by Beaver (1966) shows that the leverage ratio which is defined as total senior securities divided by total assets exhibits the highest relation with default risk. Duffee (1995) shows the evidence of the positive relation between leverage and risk measure. Besides, Ashbaugh-Skaife et al. (2009) expect firms with higher leverage to exhibit greater stock investment risk. The result is consistent with their expectation

(i.e., a significant positive relation between leverage and idiosyncratic risk) when they eliminate from the sample firms that have little or no debt.

Therefore, I expect a negative association between leverage and accruals quality. Besides, I expect a positive association between leverage and stock investment risk. The financial leverage here is defined as total debts scaled by total assets at the beginning of the period.

3.6.3 Cash Flow from Operations “CFO”

Cash flow from operations is added as a control variable in the analysis of accruals quality since the volatility of cash flow can be reduced by discretionary accruals. In addition, the previous literature finds the negative correlation between discretionary accruals and operating cash flows (e.g. Dechow, 1994; Dechow et al., 1995; Pornupatham, 2008).

Moreover, cash flow from operations is used to capture operating performance. Firms with underperforming operations have greater stock investment risk. As expected, Ashbaugh-Skaife et al. (2009) find that firms with better operating performance exhibit lower idiosyncratic risk and systematic risk. Thus, a negative association among accruals quality, firm risk, and cash flow from operations is anticipated. The cash flow from operations is defined as cash flow from operations divided by total assets at the beginning of the period.

3.7 Control Variables for Analysis of Accruals Quality

The control variable used in analysis of accruals quality is Big Four Auditor. A summary of control variables for analysis of accruals quality is presented in Table 3.4.

3.7.1 Big Four Auditor “BIG4”

Big four auditor is used as a control variable only in the analysis of accruals quality. Teoh and Wong (1993) find that larger auditors are perceived as more credible. If a high level of audit quality is perceived by investors, auditors will strongly respond to surprised earnings reporting and will limit earnings management so as to protect their reputation and creditability. Consistently, Becker et al. (1998) note that Big 6 audit clients have lower discretionary accruals than non Big 6 audit clients. However, Francis, Maydew and Sparks (1999) document that Big 6 audit firms have lower amount of estimated discretionary accruals even though they have higher levels of total accruals. Big 6 auditors may effectively detect aggressive and opportunistic earnings management because the quality of Big 6 audit firms may come from better technologies for detecting problem areas, strict interpretations of generally accepted accounting principles (GAAP), and strong negotiating power with clients. Recently, Porupatham (2008) using Thai data find that firms with Big four auditors report lower discretionary accruals than those with non-Big four auditors. A positive association between Big four auditor and accruals quality is therefore anticipated. Big Four Auditor is measured by the dummy variables 1 and 0.

Table 3.4
Summary of Control Variables for Analysis of Accruals Quality, Stock
Investment Risk and their Measurement

Control Variables	ABB	Measurement	Sign	Reference
Size	“SIZE”	The natural logarithm of firm market value of equity	-	Watts and Zimmerman (1978, 1986) and Zmijewski and Hagerman (1981)
Leverage	“LEV”	Total debts scaled by total asset at the beginning of the fiscal year	-	Watts and Zimmerman (1986) and DeFonse and Jiambalvo (1994)
Cash flow from operation	“CFO”	Cash flow from operations divided by total assets at the beginning of the fiscal year	-	Dechow (1994), Dechow et al. (1995) and Pornupatham (2008)
Big four auditor (Only accruals quality)	“BIG4”	Dummy variable 1- Big four auditor 0 - Otherwise	+	Teoh and Wong (1993), Becker et al. (1998), Francis et al. (1999) and Pornupatham (2008)

3.8 Control Variables for Analysis of Stock Investment Risk

The control variables in analysis of idiosyncratic risk and total risk are standard deviation of cash flow from operations, book to market, dividend distribution, return, covariance of the firm's cash flows with market cash flows, and industry beta. A summary of control variables for analysis of stock investment risk are shown in Table 3.5.

3.8.1 Standard Deviation of Cash Flow from Operations “STD_CFO”

Standard deviation of cash flow from operations is the risk factor previously documented in the literature as being related to idiosyncratic risk and systematic risk (e.g., see Beaver, Kettler and Scholes, 1970; Ashbaugh-Skaife et al., 2009). The standard deviation of cash flow from operations is used to capture the volatility of operations. Ashbaugh-Skaife et al. (2009) show the evidence that firms with more volatile operations exhibit greater unsystematic and systematic risks. The result leads to a positive association between the standard deviation of cash flow and the risk measure. A positive association between the standard coefficients of cash flow from operations and the risk measures is thus anticipated. The standard deviation of cash flow from operations is defined as the five-year standard deviation of cash flow from operations divided by total assets, requiring a minimum of three years of data.

3.8.2 Book to Market “BM”

Book to market can reflect financial distress, which leads to a positive association between book to market and the risk measure; or can proxy for growth opportunities, which leads to a negative association between book to market and the

risk measure. Ashbaugh-Skaife et al. (2009) find the evidence of a negative association between book to market and the risk measure that is consistent with the findings of Rajgopal and Venkatachalam (2005); and suggest that firms with greater growth opportunities have lower idiosyncratic risk and beta. Book to market is defined as book value of equity divided by market value of equity.

3.8.3 Dividend Distribution “DIVPAYER”

Dividend payment is an accounting risk factor previously documented in the literature as being related to the risk measure (e.g., see Beaver et al. (1970)). Dividend distribution is used to capture both maturity and profitability of the firm. Dividends are paid when the firm is profitable. Moreover, dividend-paying firms are more likely to be less risky. Ashbaugh-Skaife et al. (2009) show the evidence that firms that pay dividend more often exhibit lower idiosyncratic and non-diversifiable risk. A negative association between dividend distribution and the risk measure is thus anticipated. Dividend distribution is 1 if the firm pays dividends, and 0 if otherwise.

3.8.4 Return “RET”

Return is included as a control variable in the model to analyze idiosyncratic risk (Ashbaugh-Skaife et al., 2009). Rajgopal and Venkatachalam (2005) find the evidence of a negative association between return and idiosyncratic risk. However, a study by Duffee (1995) shows the evidence that the sample firms selected for use in the study influence the association between return and idiosyncratic. The researcher also finds that the association varies depending upon how firms that are met with

bankruptcies, takeover, and/or delisting are treated. This study defines return as the buy-and-hold return over the firm's fiscal year.

3.8.5 Covariance of the Firm's Cash Flows with Market Cash Flows "COVCFO"

The covariance of the firm's cash flows with market cash flows is a proxy for risk factor previously documented in the literature as being related to systematic risk (e.g., see Beaver et al. (1970)). This study predicts a positive coefficient on COVCFO as the more volatile firms' cash flows from operations are, the riskier the firms are. To determine the covariance of the firm's cash flows with market cash flows, the quarterly cash flows from operations over five consecutive years (i.e., current and prior four fiscal years) are used in the calculation. A minimum of three year of data, which are divided by total assets of the firm and the market, is required in the computation of this measure. The variable is then multiplied by 1,000 to facilitate comparisons with other coefficients.

3.8.6 Industry Beta "INDBETA"

Industry beta, a measure of industry risk, is included only in the analysis of total risk. Ashbaugh-Skaife et al. (2009) find a positive coefficient on INDBETA, i.e., firms that operate in riskier industries are expected to have greater market risk. Hence, a positive association between industry beta and total risk is expected.

The industry beta is measured as the coefficient on *RMRF* in the industry return regression (β_1): $INDRET = \beta_0 + \beta_1 RMRF + \varepsilon$

The model is estimated from the monthly returns of the firm's 2007 to 2009 fiscal year-ends and their respective four years prior covering a period of 60 months each, requiring a minimum of 24 months.

INDRET (Industry Return) is the monthly value-weighted return on a portfolio of firms in the same industry minus the risk-free rate.

RMRF is the excess return on the market.

Table 3.5

Summary of Control Variables for Analysis of Stock Investment Risk and their Measurement

Control Variables	ABB	Measurement	Sign	Reference
Size	“SIZE”	The natural logarithm of firm market value of equity	-	Ferreira and Laux (2007) and Ashbaugh-Skaife et al. (2009)
Leverage	“LEV”	Total debts scaled by total assets at the beginning of the fiscal year	+	Duffee (1995) and Ashbaugh-Skaife et al. (2009)
Cash flow from operations	“CFO”	Cash flow from operations divided by total assets at the beginning of the fiscal year	-	Ashbaugh-Skaife et al. (2009)
Standard deviation of cash flow from operations	“STD_CFO”	The five-year standard deviation of cash flow from operations divided by total assets, requiring a minimum of three years of data	+	Beaver et al. (1970) and Ashbaugh-Skaife et al. (2009)
Book-to-market	“BM”	Book value of equity divided by market value of equity	?	Rajgopal and Venkatachalam (2005) and Ashbaugh-Skaife et al. (2009)

(Continued on Page 109)

Table 3.5 (Continuing from Page 108)

**Summary of Control Variables for Analysis of Stock Investment Risk and their
Measurement**

Control Variables	ABB	Measurement	Sign	Reference
Dividend distribution	“DIVPAYER”	Define value as one if the firm pays dividends, and zero if otherwise	-	Beaver et al. (1970) and Ashbaugh-Skaife et al. (2009)
Return	“RET”	The buy-and-hold return over the firm’s fiscal year	?	Duffee (1995) Rajgopal and Venkatachalam (2005) and Ashbaugh-Skaife et al. (2009)
Covariance of the firm’s cash flows with the market cash flows (Only in Total Risk)	“COV-CFO”	The quarterly cash flows from operations using 2006 and the prior four fiscal years, requiring a minimum of three years of data, divided by total assets of the firm and market	+	Ashbaugh-Skaife et al. (2009)
Industry beta (Only in Total Risk)	“INDBETA”	The coefficient on <i>RMRF</i> in the industry return regression (β_1): $INDRET = \beta_0 + \beta_1 RMRF + \varepsilon$	+	Ashbaugh-Skaife et al. (2009)

CHAPTER IV

EMPIRICAL RESULTS

This paper examines the association between corporate governance mechanisms and stock investment risk through the quality of accounting information, i.e., accruals quality.

This section reports descriptive statistics and multiple regression analyses from five models. The association between corporate governance mechanisms and accruals quality is investigated in model (1). The associations of accruals quality to idiosyncratic risk and to total risk are examined in models (2) and (3), respectively. The association between corporate governance mechanisms and idiosyncratic risk is investigated in model (4). Finally, the association between corporate governance mechanisms and total risk is studied in model (5).

Removal of Outliers

The researcher employs Cook's Distance (D_i) to detect influential outliers and a rule of thumb is to identify observations with a value of D_i equal to 1.0 or greater.

With the criterion being the value of D_i equal to 1.0 or greater, nine influential outliers are detected and removed. The final number of 721 firm-year observations remains after the elimination.

Linear Regression Assumptions

In assessing the linear regression assumptions, it is found that the samples do not violate the linear regression assumptions. This is explained in (1) to (5) as follows:

- (1) *Variance Inflation Factors* (VIF) are lower than 10, indicating no multicollinearity problems among variables.
- (2) *Durbin-Watson* coefficient value is between 1.5 and 2.5 with tests indicating that an autocorrelation problem does not exist.
- (3) White's tests and Breusch-Pagan are examined to ensure that there are no heteroscedasticity problems.
- (4) Based on the Central Limit Theorem, the distribution of residuals in large sample size is normal. A sample size of 30 or more is generally regarded as large (Dielman, 2005). The sample size of this study is 721, which is far larger than 30; thus, the assumption of normal distribution of residuals is justified.
- (5) The mean value of residuals is zero.

4. 1 DESCRIPTIVE STATISTICS

Table 4.1 presents descriptive statistics of all observations which consist of means, medians and standard deviations of all variables. The mean and median of standard deviations of accruals quality (AccQ) are -0.1225 and -0.0493, respectively. The means of idiosyncratic risk (I_RISK) and total risk (TT_RISK) of non-financial firms are 0.1310 and 0.1337, respectively.

With respect to internal corporate governance mechanisms, the mean and median of corporate governance index (CGI) are 66.04% and 66.66%, respectively. The percentage of shares held by family members (F_OWN) shows a mean and median of 31.11 and 30.67, respectively. This is consistent with prior studies which show that shares in most listed companies in East Asia are held by controlling families (Claessens et al., 2000; Lins, 2003). The mean and median of institutional investors (INS_OWN) are 5.91% and 2.93%, respectively.

This study employs two different approaches to measuring the product market competition, i.e., the Herfindahl index (H-Index) and an industry-adjusted price cost margin (IPCM). The means of the Herfindahl index and industry-adjusted price cost are 0.0993 and 0.0122. The mean and median of media coverage are 31.18 and 25.00.

With respect to control variables, the dummy variable of Big 4 auditors (BIG4) shows a mean of 0.53, indicating that 53% of the sampled firms during 2007 to 2009 were audited by Big 4 auditors. The mean of natural logarithm of sampled firms' equity market value (SIZE) is 14.3364 (Baht 11,910.74 million). The mean and median of firms' leverage (LEV) are 0.4448 and 0.4254, respectively, indicating that 44% of sampled firms' assets are financed by debts and 56% by shareholders' equities. The mean and median cash flow from operations (CFO) are 8.85% and

8.75% of total assets, respectively. The standard deviation of cash flow from operations (STD_CFO) shows a mean of 0.07. The median value of book to market value of equity (BM) highly fluctuated during the study period (2007: 1.031, 2008: 1.562 and 2009: 1.102). The highest median was in 2008 when the local market was hit by the global financial crisis that had originated in the U.S.A. and by domestic political upheaval, both of which have caused the median to remain unstable thereafter. The dummy variable of dividend distribution (DIVPAYER) shows a mean of 0.71, presenting that 71% of sampled firms pay dividend to the shareholders. The mean of buy-and-hold return over the firm's fiscal year (RET) is 0.0356 or 3.56%. The covariance of the firm's cash flow with market cash flow (COVCFO) has a mean value 10.508. Finally, the mean value of industry beta is 0.781.

Table 4.1
Descriptive Statistic
for the periods 2007-2009 (n=721)

	Mean	Median	Standard Deviation
AccQ	-0.1225	-0.0493	-0.5207
I_RISK	0.1310	0.0090	0.8714
TT_RISK	0.1337	0.0121	0.8784
CGI	66.04	66.66	7.23
F_OWN	31.111	30.670	23.442
INS_OWN	5.91	2.93	9.15
H-Index	0.0993	0.1082	0.0748
IPCM	0.0122	0.0103	0.2099
MEDIA	31.18	25.00	16.70
BIG4	0.53	1.00	0.50
SIZE	14.3364	14.0733	1.7749
LEV	0.4448	0.4254	0.2872
CFO	0.0885	0.0875	0.1309
STD_CFO	0.0700	0.0501	0.1091
BM	1.4599	1.2462	1.3062
DIVPAYER	0.71	1.00	0.45
RET	0.0356	-0.0773	1.1332
COVCFO	10.5080	6.6034	28.2148
INDBETA	0.7809	0.7263	0.3181

The definitions of variables are given in Table 3.2.

Table 4.2 shows Pearson correlations between the dependent and explanatory variables. Most of the corporate governance variables, except institutional ownership variable, are correlated with the accruals quality. The same table illustrates a highly negative correlation between the accruals quality and stock investment risks, i.e., idiosyncratic risk and total risk. Besides, the results in the table also show that most corporate governance variables are highly correlated with stock investment risk. However, family ownership variable is not correlated with idiosyncratic risk. These correlation coefficients do not take into account joint effects of other variables; therefore, the multiple regression analysis should be performed to test the formal hypotheses.

Table 4.2
Correlation Matrix
for the periods 2007-2009 (n=721)

	AccQ	L_RISK	TT_RISK	CGI	F_OWN	INS_OWN	H-Index	IPCM	MEDIA	BIG4	SIZE	LEV	CFO	STD_CFO	BM	DIV_PAYER	RET	COV_CFO	IND_BETA
AccQ	1																		
L_RISK	-0.194***	1																	
TT_RISK	-0.198***	0.978***	1																
CGI	0.088**	-0.167***	-0.109***	1															
F_OWN	0.109***	-0.040	-0.085**	0.025	1														
INS_OWN	0.023	-0.091**	-0.068*	0.110***	-0.126***	1													
H-Index	0.061*	-0.137***	-0.156***	0.159***	-0.012	0.020	1												
IPCM	0.214***	-0.145***	-0.130***	0.132***	0.084**	-0.023	0.014	1											
MEDIA	-0.062*	0.134***	0.182***	0.225***	-0.069*	0.123***	0.061	0.028	1										
BIG4	0.067*	-0.159***	-0.138***	0.092**	-0.114***	0.178***	0.008	0.202***	0.091**	1									
SIZE	0.055	-0.199***	-0.136***	0.349***	-0.035	0.186***	0.217***	0.390***	0.433***	0.361***	1								
LEV	-0.067*	0.086**	0.112***	0.010	-0.046	0.100***	-0.099***	-0.108***	0.161***	0.060	0.031	1							
CFO	0.072*	-0.146***	-0.145***	0.022	0.058	0.010	0.139***	0.326***	-0.049	0.115***	0.214***	-0.198***	1						
STD_CFO	-0.008	0.096***	0.087**	-0.069*	0.021	-0.063*	-0.062*	-0.130***	0.025	-0.035	-0.140***	0.154***	-0.064*	1					
BM	0.038	0.037	0.039	-0.113***	-0.066*	-0.004	-0.153***	-0.074**	-0.166***	-0.039	-0.361***	-0.139***	-0.168***	-0.350***	1				
DIVPAYER	0.090**	-0.325***	-0.321***	0.201***	0.062*	0.054	0.115***	0.395***	-0.040	0.215***	0.365***	-0.191***	0.270***	-0.106***	-0.181***	1			
RET	0.008	0.033	0.027	-0.016	0.024	-0.042	0.044	0.014	0.067*	-0.078**	-0.001	-0.058	-0.006	0.029	-0.077**	-0.008	1		
COVCFO	0.042	0.077**	0.075**	-0.074**	-0.022	-0.060	-0.060	-0.029	0.004	0.036	-0.039	-0.026	0.012	0.114***	0.018	0.026	0.021	1	
INDBETA	-0.066*	0.136***	0.186***	0.107***	-0.097***	0.146***	-0.053	-0.006	0.235***	0.078**	0.204***	0.207***	-0.091**	0.094**	-0.070*	-0.086**	-0.026	0.161***	1

This table presents Pearson correlations of different pairs of dependent and explanatory variables.

The definitions of variables are given in Table 3.2.

***, **, and * denote statistical significance at 1, 5, 10 percent levels.

4.2. MULTIPLE REGRESSION RESULTS

4.2.1 The association between corporate governance mechanisms and accruals quality

As Table 4.3 illustrates, F-statistics of the regression model are significant at 1% level, indicating that these models are statistically valid. The R^2 and adjusted R^2 of the model are 7.2% and 5.6% respectively, which mean that explanatory variables are able to explain and predict the dependent variable by 6%.

Table 4.3 also provides evidence of relation between accruals quality and corporate governance mechanisms. The coefficient of internal corporate governance (CGI) is positive and significant at 5% level, which supports Hypothesis 1. The results indicate that firms with higher corporate governance index have higher accruals quality. Corporate governance has effects on accruals quality because it encompasses mechanisms which are intended to increase the monitoring of management' action and decrease the chance of managers engaging in opportunistic earnings management. For ownership structure, the coefficient of family ownership (F_OWN) is positively significant at 1% level. The result supports Hypothesis 2a, indicating that firms with increased family ownership concentration have higher accruals quality. The positive relation between family ownership and accruals quality illustrates that family shareholders are less likely to expropriate wealth from other shareholders through earnings management. Moreover, family owners have significant reputation capital invested in the firms because family firms not only view firms as a means of funding current assumption but also as an asset to bequeath to their descendants. This finding is consistent with the alignment effect in the agency theory (Jensen and Meckling, 1976).

Nonetheless, the coefficient of institutional investors (INS_OWN) is not significant. Hypothesis 2b thus is not supported. This finding indicates that institutional ownership is not associated with accruals quality.

This study employs two different measures of product market competition, i.e., the Herfindahl index (H-Index) and an industry-adjusted price-cost margin (IPCM). The lower the Herfindahl index and a firm's IPCM, the higher the product market competition, and, conversely, higher Herfindahl index and IPCM imply that only a few, primarily large, firms dominate the market. Coefficients of Herfindahl index and industry-adjust price-cost margin are significant and positive at the significance levels of 10% and 1%, respectively. The results are thus consistent with Hypothesis 3a. The positive relation between product market competition and accruals quality implies that firms enjoying higher market power have higher accruals quality than firms in competitive product market. This is consistent with prior study which suggests that firms in highly competitive industries save more for (borrow more from) the future when firms' current pre-managed earnings are above (below) the industry median and future earnings are below (above) the industry (Zhou, 2000).

Table 4.3

Multiple Regression of Accruals Quality on Corporate Governance Mechanisms for the periods 2007-2009 (n= 721)

$$AccQ_{i,t} = \beta_0 + \beta_1 CGI_{i,t} + \beta_2 F_OWN_{i,t} + \beta_3 INS_OWN_{i,t} + \beta_4 H - Index_{i,t} + \beta_5 IPCM_{i,t} + \beta_6 MEDIA_{i,t} + \beta_7 BIG4_{i,t} + \beta_8 SIZE_{i,t} + \beta_9 LEV_{i,t} + \beta_{10} CFO_{i,t} + \beta_{11} Y08_{i,t} + \beta_{12} Y09_{i,t} + \varepsilon_j$$

Variables	Expected Sign	Coefficients (Standardized Coefficients)	t-statistic p-value
Intercept	None	-0.290	-1.26 0.209*
CGI	(+)	0.005 (0.074)	1.86 0.032
F_OWN	(+)	0.002 (0.094)	2.55 0.006
INS_OWN	(+)	0.002 (0.043)	1.15 0.126
H-Index	(+)	0.428 (0.062)	1.62 0.053
IPCM	(+)	0.526 (0.212)	5.04 <0.0001
MEDIA	(+)	-0.002 (-0.062)	-1.47 0.071
BIG4	(+)	0.053 (0.051)	1.29 0.099

(Continued on Page 120)

Table 4.3 (Continuing from Page119)

Multiple Regression of Accruals Quality on Corporate Governance Mechanisms for the periods 2007-2009 (n= 721)

Variables	Expected	Coefficients	t-statistic
	Sign	(Standardized Coefficients)	p-value
SIZE	(-)	-0.018 (-0.060)	-1.19 0.118
LEV	(-)	-0.059 (-0.033)	-0.87 0.192
CFO	(-)	-0.063 (-0.016)	-0.40 0.346
Y08	None	-0.009 (-0.008)	-0.18 0.855*
Y09	None	-0.001 (-0.001)	-0.03 0.979*
F-value		4.57	
p-value		<0.0001	
R ²		0.0720	
Adjusted R ²		0.0562	

The figures in the table are one-tail p-values except those with asterisks (*) that are two-tail p-values. The definitions of variables are given in Table 3.2.

Besides, coefficient of media coverage (MEDIA) is also significant and negative at the significance level of 10%. The result is inconsistent with Hypothesis 3b, indicating that firms with more media coverage might have lower accruals quality. The media coverage directly influences a firm's performance and managerial behavior. Besides, media attention could affect reputations of managers and board members in the eyes of shareholders and future employers. Thus, managers might have incentive to manipulate earnings in order to meet or beat earnings forecast or their news releases.

In addition, coefficient of auditor size (BIG4) is significant and positive at the significance level of 10%. This is consistent with the findings of Becker et al. (1998) and Pornupatham (2008) who found that firms with Big four auditors report lower discretionary accruals than those with non-Big four auditors. The coefficients of firm size (SIZE), leverage (LEV) and cash flow from operations (CFO) are not significant, indicating that firms' size, leverage and cash flow from operations are not related to accruals quality.

4.2.2 The association between accruals quality and stock investment risk

Tables 4.4 and 4.5 show the multiple regression results of the association of the accruals quality to idiosyncratic risk and to total risk, respectively. The adjusted R^2 for the idiosyncratic risk model and total risk model are 14.01% and 15.41% at the significance level of 1%.

The coefficients of accruals quality (AccQ) are negatively significant at 1% level in both idiosyncratic risk model and total risk model. These results support Hypothesis 4, indicating that firms with higher accruals quality have lower idiosyncratic risk and total risk. The results are consistent with prior studies which show evidence that firms with poor earnings quality increase idiosyncratic volatility (Rajgopal and Venkatachalam, 2009; Shan et al. 2009). Moreover, the association between accruals quality and stock investment risk exists, indicating that accruals quality is a mediating variable between corporate governance mechanism and stock investment risks, i.e., idiosyncratic risk and total risk. The results are presented in the next section.

Analysis of control variables in both idiosyncratic risk model and total risk model is as follows:

Coefficients of firm size (SIZE) are negatively significant at 5% level in idiosyncratic risk model, consistent with prior studies which note that large firms are expected to be less risky (Ferreira and Laux, 2007; Ashbaugh-Skaife et al., 2009). Coefficients of dividend distribution (DIVPAYER) are negatively significant at 1% level, consistent with prior study in which firms that regularly pay dividend exhibit lower idiosyncratic risk and non-diversified risk (Ashbaugh-Skaife et al., 2009). The result indicates that the coefficient of standard deviation of cash flow (STD_CFO) is positively significant at 10% level in idiosyncratic risk model. But the coefficient of standard deviation of cash flow (STD_CFO) is insignificant in total risk model. In addition, the coefficients of leverage (LEV), cash flow from operations (CFO), book to market, and return, are insignificant in both idiosyncratic risk and total risk model.

Table 4.5 shows the positive association between covariance of firm's cash flow with market cash flow and total risk at the significance level of 5%, indicating that firms with more volatile cash flow from operations are considered to be riskier firms. Besides, the relation between industry beta and total risk with corresponding sign as anticipated is found to be positively significant at 1% significance level, implying that firms operating in riskier industries are expected to have greater total risk.

Table 4.4

Multiple Regression of Idiosyncratic Risk on Accruals Quality for the periods 2007-2009

(n= 721)

$$I_RISK_{i,t} = \delta_0 + \delta_1 AccQ_{i,t} + \delta_2 SIZE + \delta_3 LEV_{i,t} + \delta_4 CFO_{i,t} \\ + \delta_5 STD_CFO_{i,t} + \delta_6 BM_{i,t} + \delta_7 DIVPAYER_{i,t} + \delta_8 RET_{i,t} \\ + \delta_9 Y08_{i,t} + \delta_{10} Y09_{i,t} + \varepsilon_j$$

Variables	Expected Sign	Coefficients (Standardized Coefficients)	t-statistic p-value
Intercept	None	-2.879	-5.76 <0.0001
AccQ	(+)	-0.434 (-0.162)	-4.64 <0.0001
SIZE	(-)	-0.071 (-0.090)	-2.20 0.014
LEV	(+)	0.085 (0.017)	0.47 0.318
CFO	(-)	-0.438 (-0.041)	-1.10 0.135
STD_CFO	(+)	0.679 (0.053)	1.34 0.090
BM	(?)	0.002 (0.002)	0.04 0.972*

(Continued on Page 125)

Table 4.4 (Continuing from Page 124)

Multiple Regression of Idiosyncratic Risk on Accruals Quality for the periods 2007-2009
(n= 721)

Variables	Expected	Coefficients	t-statistic
	Sign	(Standardized Coefficients)	p-value
DIVPAYER	(-)	-0.794 (-0.257)	-6.59 <0.0001
RET	(?)	0.050 (0.041)	1.13 0.261*
Y08	None	-0.278 (-0.094)	-2.22 0.027*
Y09	None	-0.081 (-0.028)	-0.67 0.504*
F-value		12.73	
p-value		<0.0001	
R ²		0.1520	
Adjusted R ²		0.1401	

The figures in the table are one-tail p-values except those with asterisks (*) that are two-tail p-values. The definitions of variables are given in Table 3.2.

Table 4.5

Multiple Regression of Total Risk on Accruals Quality for the periods 2007-2009

(n= 721)

$$\begin{aligned}
 TT_RISK_{i,t} = & \delta_0 + \delta_1 AccQ_{i,t} + \delta_2 SIZE + \delta_3 LEV_{i,t} + \delta_4 CFO_{i,t} \\
 & + \delta_5 STD_CFO_{i,t} + \delta_6 BM_{i,t} + \delta_7 DIVPAYER_{i,t} + \delta_8 RET_{i,t} \\
 & + \delta_9 COVCFO_{i,t} + \delta_{10} INDBETA_{i,t} + \delta_{11} Y08_{i,t} + \delta_{12} Y09_{i,t} + \varepsilon_j
 \end{aligned}$$

Variables	Expected	Coefficients	t-statistic
	Sign	(Standardized Coefficients)	p-value
Intercept	None	-3.679	-7.68
			<0.0001
AccQ	(+)	-0.418	-4.65
		(-0.161)	<0.0001
SIZE	(-)	-0.041	-1.27
		(-0.054)	0.102
LEV	(+)	0.088	0.51
		(0.019)	0.307
CFO	(-)	-0.343	-0.90
		(-0.033)	0.184
STD_CFO	(+)	0.400	0.82
		(0.032)	0.208
BM	(?)	0.017	0.37
		(0.016)	0.713*

(Continued on Page 127)

Table 4.5 (Continuing from Page 126)

Multiple Regression of Total Risk on Accruals Quality for the periods 2007-2009

(n= 721)

Variables	Expected	Coefficients	t-statistic
	Sign	(Standardized Coefficients)	p-value
DIVPAYER	(-)	-0.765 (-0.257)	-6.58 <0.0001
RET	(?)	0.044 (0.037)	1.05 0.296*
COVCFO	(+)	0.003 (0.060)	1.69 0.046
INDBETA	(+)	0.639 (0.151)	4.02 <0.0001
Y08	None	-0.218 (-0.077)	-1.81 0.071*
Y09	None	-0.065 (-0.023)	-0.55 0.580*
F-value		11.93	
p-value		<0.0001	
R ²		0.1682	
Adjusted R ²		0.1541	

The figures in the table are one-tail p-values except those with asterisks (*) that are two-tail p-values. The definitions of variables are given in Table 3.2.

4.2.3 The association between corporate governance mechanisms and stock investment risk

The results of the associations of corporate governance mechanisms to idiosyncratic risk and to total risk are presented in Tables 4.6 and 4.7, respectively. Both idiosyncratic risk and total risk are significant at 1% level as revealed by the model F -statistics. The adjusted R^2 for the idiosyncratic risk and total risk models are 16.04% and 17.56%.

The results from both models are not different. Therefore, the results of both models will be described concurrently.

As presented in Tables 4.6 and 4.7, the coefficient of corporate governance index (CGI) is negatively significant at 1% level in idiosyncratic risk model and at 10% level in total risk model. Hypothesis 5a is thereby supported, indicating that firms with better internal corporate governance have lower idiosyncratic risk and total risk. The components of internal corporate governance, which consist of rights of shareholders; equitable treatment of shareholders; roles of stakeholders in corporate governance; disclosure and transparency; and responsibility of the board in mitigating the agency problem and the information asymmetry between shareholders and manager, lower firms' idiosyncratic volatilities and return volatilities.

With respect to ownership structure, the coefficients of family firms (F_OWN) are significant and negative at the significance level of 5% only in total risk model. Hypothesis 6a is hence supported. The results imply that firms with higher family ownership have lower total risk. The lower total risk is also present among a number

of SET-listed companies in which the ownership of the companies is mostly in the hands of one or a few families. This is consistent with prior studies which note that family firms exhibit significantly better accounting and market performance than non-family firms, but firm value increases as the level of insider ownership rises and then declines as insiders become entrenched (Anderson and Reeb, 2003a; Lin, 2003). The coefficients of institutional ownership (INS_OWN) in both idiosyncratic risk and total risk models are significant and negative at the significance level of 5%. The results support Hypothesis 7a, indicating firms with higher proportion of institutional investors have lower stock investment risk. Institutional investors are sophisticated in that they use non-earnings information to predict future earnings (Jiambalvo et al, 2002). Besides, long-term oriented institutional investors might increase firm value through their influence in managerial decision (Holderness and Sheehan, 1985; Barclay and Holderness, 1990). Firms' risk might be minimized by restricting managers' ability to manage earnings.

This study also shows that one of the two product market competition measures related to stock investment risk. The coefficients of Herfindahl index (H-Index) are negatively significant in both idiosyncratic risk and total risk models at 5% and 1% levels, respectively. These results are consistent with Hypothesis 8a, indicating that firms with high market power have lower idiosyncratic risk and total risk. Prior study notes that firms enjoying high market power, or having established in concentrated industries, have lower idiosyncratic volatility (Gaspar and Massa, 2006).

Coefficient of media coverage (MEDIA) is significantly positive at 1% level in both idiosyncratic risk and the total risk models. The results are inconsistent with Hypothesis 9a, indicating firms with more media coverage have higher idiosyncratic volatility and total volatility. Most news titles are related with firms' performance, related parties transactions and firms' activities. Investors use information to price stock and therefore changing stock price up to firms' news releases. Thus, firms with more media coverage have higher stock investment risk.

Tables 4.6 and 4.7 present the results of control variables. Most coefficients of control variables in this section are not different in sign and significance level as previously described in the analysis of the association between accruals quality and stock investment risk except for the coefficients of firm size (SIZE) which are significant in both idiosyncratic risk and total risk models and negative at the significance level of 1%. This is consistent with prior literature suggesting that firm size has a negative correlation with idiosyncratic volatility and return volatilities (Ferreira and Laux, 2007; Ashbaugh-Skaife et al, 2009). Besides, the coefficient of standard deviation of cash flow from operations in idiosyncratic risk model and the coefficient of covariance of the firm's cash flow with market cash flow in total risk model are insignificant when examining the direct effects of corporate governance mechanisms on stock investment risk.

Table 4.6

Multiple Regression of Idiosyncratic Risk on Corporate Governance Mechanisms for the periods 2007-2009 (n = 721)

$$\begin{aligned}
 I_RISK_{i,t} = & \gamma_0 + \gamma_1 CGI_{i,t} + \gamma_2 F_OWN_{i,t} + \gamma_3 INS_OWN_{i,t} + \gamma_4 H_Index_{i,t} \\
 & + \gamma_5 IPCM_{i,t} + \gamma_6 MEDIA_{i,t} + \gamma_7 SIZE_{i,t} + \gamma_8 LEV_{i,t} + \gamma_9 CFO_{i,t} \\
 & + \gamma_{10} STD_CFO_{i,t} + \gamma_{11} BM_{i,t} + \gamma_{12} DIVPAYER_{i,t} + \gamma_{13} RET_{i,t} \\
 & + \gamma_{14} Y08_{i,t} + \gamma_{15} Y09_{i,t} + \varepsilon_j
 \end{aligned}$$

Variables	Expected Sign	Coefficients (Standardized Coefficients)	t-statistic p-value
Intercept	None	-0.948	-1.46 0.145*
CGI	(-)	-0.019 (-0.100)	-2.65 0.004
F_OWN	(-)	-0.002 (-0.025)	-0.72 0.235
INS_OWN	(-)	-0.009 (-0.060)	-1.68 0.047
H-Index	(-)	-1.282 (-0.069)	-1.91 0.028
IPCM	(-)	0.210 (0.032)	0.78 0.219
MEDIA	(-)	0.019 (0.223)	5.56 <0.0001

(Continued on Page 132)

Table 4.6 (Continuing from Page 131)

Multiple Regression of Idiosyncratic Risk on Corporate Governance Mechanisms for the periods 2007-2009 (n = 721)

Variables	Expected	Coefficients	t-statistic
	Sign	(Standardized Coefficients)	p-value
SIZE	(-)	-0.137 (-0.175)	-3.50 0.001
LEV	(+)	0.019 (0.004)	0.11 0.457
CFO	(-)	-0.432 (-0.041)	-1.06 0.145
STD_CFO	(+)	0.296 (0.023)	0.59 0.278
BM	(?)	-0.028 (-0.026)	-0.59 0.556*
DIVPAYER	(-)	-0.687 (-0.223)	-5.48 <0.0001
RET	(?)	0.031 (0.025)	0.70 0.485*
Y08	None	-0.252 (-0.085)	-2.03 0.043*

(Continued on Page 133)

Table 4.6 (Continuing from Page 132)

Multiple Regression of Idiosyncratic Risk on Corporate Governance Mechanisms for the periods 2007-2009 (n = 721)

Variables	Expected	Coefficients	t-statistic
	Sign	(Standardized Coefficients)	p-value
Y09	None	-0.021 (-0.007)	-0.17 0.863*
F-value		10.17	
p-value		<0.0001	
R ²		0.1779	
Adjusted R ²		0.1604	

The figures in the table are one-tail p-values except those with asterisks (*) that are two-tail p-values. The definitions of variables are given in Table 3.2.

Table 4.7

Multiple Regression of Total Risk on Corporate Governance Mechanisms

for the periods 2007-2009 (n = 721)

$$\begin{aligned}
 TT_RISK_{i,t} = & \gamma_0 + \gamma_1 CGI_{i,t} + \gamma_2 F_OWN_{i,t} + \gamma_3 INS_OWN_{i,t} + \gamma_4 H_Index_{i,t} \\
 & + \gamma_5 IPCM_{i,t} + \gamma_6 MEDIA_{i,t} + \gamma_7 SIZE_{i,t} + \gamma_8 LEV_{i,t} + \gamma_9 CFO_{i,t} \\
 & + \gamma_{10} STD_CFO_{i,t} + \gamma_{11} BM_{i,t} + \gamma_{12} DIVPAYER_{i,t} + \gamma_{13} RET_{i,t} \\
 & + \gamma_{14} COVCFO_{i,t} + \gamma_{15} INDBETA_{i,t} + \gamma_{16} Y08_{i,t} + \gamma_{17} Y09_{i,t} + \varepsilon_j
 \end{aligned}$$

Variables	Expected Sign	Coefficients (Standardized Coefficients)	t-statistic p-value
Intercept	None	-2.109	-3.39 0.001*
CGI	(-)	-0.011 (-0.057)	-1.53 0.064
F_OWN	(-)	-0.003 (-0.057)	-1.66 0.049
INS_OWN	(-)	-0.010 (-0.070)	-1.98 0.024
H-Index	(-)	-1.652 (-0.092)	-2.56 0.006
IPCM	(-)	0.188 (0.029)	0.72 0.235
MEDIA	(-)	0.018 (0.219)	5.48 <0.0001

(Continued on Page 135)

Table 4.7 (Continuing from Page 134)

**Multiple Regression of Total Risk on Corporate Governance Mechanisms
for the periods 2007-2009 (n = 721)**

Variables	Expected	Coefficients	t-statistic
	Sign	(Standardized Coefficients)	p-value
SIZE	(-)	-0.110 (-0.145)	-2.89 0.002
LEV	(+)	0.017 (0.004)	0.10 0.462
CFO	(-)	-0.273 (-0.027)	-0.070 0.242
STD_CFO	(+)	0.064 (0.005)	0.13 0.447
BM	(?)	-0.015 (-0.015)	-0.34 0.734*
DIVPAYER	(-)	-0.670 (-0.225)	-5.54 <0.0001
RET	(?)	0.027 (0.023)	0.65 0.519*
COVCFO	(+)	0.002 (0.038)	1.07 0.142
INDBETA	(+)	0.606 (0.143)	3.81 0.000

(Continued on Page 136)

Table 4.7 (Continuing from Page 135)

**Multiple Regression of Total Risk on Corporate Governance Mechanisms
for the periods 2007-2009 (n = 721)**

Variables	Expected Sign	Coefficients (Standardized Coefficients)	t-statistic p-value
Y08	None	-0.194 (-0.068)	-1.62 0.106*
Y09	None	-0.021 (-0.007)	-0.18 0.860*
F-value		10.02	
p-value		<0.0001	
R ²		0.1950	
Adjusted R ²		0.1756	

The figures in the table are one-tail p-values except those with asterisks (*) that are two-tail p-values. The definitions of variables are given in Table 3.2.

4.2.4 The association between corporate governance mechanisms and stock investment risk through accruals quality

Tables 4.8 and 4.9 present the results of the associations of corporate governance mechanisms to idiosyncratic risk and to total risk through accruals quality. As previously described, the relation between accruals quality and stock investment risk is negatively significant in both idiosyncratic risk and total risk models. The results indicate that accruals quality is a mediating variable between corporate governance mechanisms and stock investment risk.

The results of the associations of corporate governance mechanisms to idiosyncratic risk and to total risk through accruals quality are identical in sign and magnitude. Thus, the results are discussed concurrently.

Table 4.6 and 4.7 present the direct effects of internal corporate governance (CGI) on idiosyncratic risk and total risk exist. Tables 4.8 and 4.9 illustrate the indirect effects of internal corporate governance on idiosyncratic risk and total risk through accruals quality. The product of simple correlation $\beta_1 \times \delta_1$ is -0.012. These results support Hypothesis 5b, indicating that internal corporate governance reduces both idiosyncratic risk and total risk by restricting managerial accruals discretion.

Table 4.7 presents the negative significant association between family ownership and total risk. Tables 4.8 and 4.9 show the results of the association between family ownership and stock investment risk through accruals quality. The product of simple correlation $\beta_2 \times \delta_1$ is -0.015. Hypothesis 6b is thus supported. The results imply that firms with higher family ownership have lower stock investment risk, consistent with Jensen and Meckling (1976) who note the positive relation between firm value and insider equity ownership and contend that agency costs

decline as insider ownership rises since the financial interest of corporate insiders and shareholders are increasingly aligned.

With respect to product market competition, Tables 4.6 and 4.7 show the negative significant relation between Herfindahl index and stock investment risk. Nevertheless, there is no association between industry-adjusted price-cost margin and stock investment risk. Tables 4.8 and 4.9 present the indirect effects of Herfindahl index (H-index) on stock investment risk. The product of simple correlation $\beta_4 \times \delta_1$ is -0.010. Besides, these tables present the indirect association between industry-adjusted price-cost margin and stock investment risk. The product of simple correlation $\beta_5 \times \delta_1$ is -0.034. The results hence support Hypothesis 8b, indicating that firms having established in concentrated industries have lower stock investment risk because of higher accruals quality.

Besides, Tables 4.8 and 4.9 show the association between media coverage and stock investment risk through accruals quality. The product of simple correlation $\beta_6 \times \delta_1$ is 0.010. The results are in support of Hypothesis 9b, suggesting that firms with more media coverage have higher stock investment risk. Because of increasing news release about firms' performance, managers are prone to use accounting discretion to manage earnings to meet or beat their news releases.

Table 4.8
The Association Between Corporate Governance Mechanisms and Idiosyncratic Risk
Through Accruals Quality

Model: Multiple Regression of	Table	Variables	Standardized Coefficient	t-statistic	p-value
<u>Mediating variable</u>					
Idiosyncratic Risk on Accruals Quality	4.4	AccQ	δ_1	-0.162	-4.64 <0.0001
<u>Direct Effects</u>					
Idiosyncratic Risk on Corporate Governance Mechanisms	4.6	CGI	γ_1	-0.100	-2.65 0.004
<u>Indirect Effects</u>					
Accruals Quality on Corporate Governance Mechanisms	4.3	CGI	β_1	0.074	1.86 0.032
The product of simple correlation			$\beta_1 \times \delta_1$	-0.012	
<u>Direct Effects</u>					
Idiosyncratic Risk on Corporate Governance Mechanisms	4.6	F_OWN	γ_2	-0.025	-0.72 0.235
<u>Indirect Effects</u>					
Accruals Quality on Corporate Governance Mechanisms	4.3	F_OWN	β_2	0.094	2.55 0.006
The product of simple correlation			$\beta_2 \times \delta_1$	-0.015	
<u>Direct Effects</u>					
Idiosyncratic Risk on Corporate Governance Mechanisms	4.6	H-Index	γ_4	-0.069	-1.91 0.028
<u>Indirect Effects</u>					
Accruals Quality on Corporate Governance Mechanisms	4.3	H-Index	β_4	0.062	1.62 0.053
The product of simple correlation			$\beta_4 \times \delta_1$	-0.010	

(Continued on Page 140)

Table 4.8 (Continued from Page 139)
The Association Between Corporate Governance Mechanisms and Idiosyncratic Risk
Through Accruals Quality

Model: Multiple Regression of	Table	Variables	Standardized Coefficient	t-statistic p-value
<u>Direct Effects</u>				
Idiosyncratic Risk on Corporate Governance Mechanisms	4.6	IPCM γ_5	0.032	0.78 0.219
<u>Indirect Effects</u>				
Accruals Quality on Corporate Governance Mechanisms	4.3	IPCM β_5	0.212	5.04 <0.001
The product of simple correlation		$\beta_5 \times \delta_1$	-0.034	
<u>Direct Effects</u>				
Idiosyncratic Risk on Corporate Governance Mechanisms	4.6	MEDIA γ_6	0.223	5.56 <0.0001
<u>Indirect Effects</u>				
Accruals Quality on Corporate Governance Mechanisms	4.3	MEDIA β_6	-0.062	-1.47 0.071
The product of simple correlation		$\beta_6 \times \delta_1$	0.010	

The figures in the table are one-tail p-values except those with asterisks (*) that are two-tail p-values.

The definitions of variables are given in Table 3.2.

Table 4.9
The Association Between Corporate Governance Mechanisms and Total Risk
Through Accruals Quality

Model: Multiple Regression of	Table	Variables	Standardized Coefficient	t-statistic p-value
<u>Mediating variable</u>				
Total Risk on Accruals Quality	4.5	AccQ	δ_1	-0.161 -4.65 <0.0001
<u>Direct Effects</u>				
Total Risk on Corporate Governance Mechanisms	4.7	CGI	γ_1	-0.057 -1.53 0.064
<u>Indirect Effects</u>				
Accruals Quality on Corporate Governance Mechanisms	4.3	CGI	β_1	0.074 1.86 0.032
The product of simple correlation			$\beta_1 \times \delta_1$	-0.012
<u>Direct Effects</u>				
Total Risk on Corporate Governance Mechanisms	4.7	F_OWN	γ_2	-0.057 -1.66 0.049
<u>Indirect Effects</u>				
Accruals Quality on Corporate Governance Mechanisms	4.3	F_OWN	β_2	0.094 2.55 0.006
The product of simple correlation			$\beta_2 \times \delta_1$	-0.015
<u>Direct Effects</u>				
Total Risk on Corporate Governance Mechanisms	4.7	H-Index	γ_4	-0.092 -2.56 0.006
<u>Indirect Effects</u>				
Accruals Quality on Corporate Governance Mechanisms	4.3	H-Index	β_4	0.062 1.62 0.053
The product of simple correlation			$\beta_4 \times \delta_1$	-0.010

(Continued on Page 142)

Table 4.9 (Continued from Page 141)
The Association Between Corporate Governance Mechanisms and Total Risk
Through Accruals Quality

Model: Multiple Regression of	Table	Variables	Standardized Coefficient	t-statistic p-value
<u>Direct Effects</u>				
Total Risk on Corporate Governance Mechanisms	4.7	IPCM	γ_5	0.029 0.72 0.235
<u>Indirect Effects</u>				
Accruals Quality on Corporate Governance Mechanisms	4.3	IPCM	β_5	0.212 5.04 <0.001
The product of simple correlation			$\beta_5 \times \delta_1$	-0.034
<u>Direct Effects</u>				
Total Risk on Corporate Governance Mechanisms	4.7	MEDIA	γ_6	0.219 5.48 <0.0001
<u>Indirect Effects</u>				
Accruals Quality on Corporate Governance Mechanisms	4.3	MEDIA	β_6	-0.062 -1.47 0.071
The product of simple correlation			$\beta_6 \times \delta_1$	0.010

The figures in the table are one-tail p-values except those with asterisks (*) that are two-tail p-values.

The definitions of variables are given in Table 3.2.

CHAPTER V

SUMMARY AND LIMITATIONS

5.1 SUMMARY

The purpose of this study is to examine the association between corporate governance mechanisms, i.e., internal corporate governance, ownership structure, and external corporate governance; and stock investment risk, i.e., idiosyncratic risk and total risk through the quality of accounting information, i.e., accruals quality for the period 2007 to 2009 of listed non-financial firms in Thailand.

The results show that firms with higher accruals quality have lower idiosyncratic risk and total risk, and that accruals quality is a mediating variable between corporate governance mechanisms and stock investment risks, i.e. idiosyncratic risk and total risk. Consistent with prior studies, the downward trend in earnings quality is related to the upward trend in return volatilities (Rajgopal and Venkatachalam, 2009; Shan et al., 2009). The results of analysis of the relations of corporate governance mechanisms to accruals quality and to stock investment risk are as follows:

Firms with higher corporate governance index have higher accruals quality and lower stock investment risk. The internal corporate governance has both direct and indirect effects through accruals quality on stock investment risk because it encompasses mechanisms which are intended to increase the monitoring of management' action and decrease the chance of managers engaging in opportunistic earnings management. The results show that firms with increased family ownership

concentration have higher accruals quality. Both idiosyncratic risk and total risk decrease in firms with higher family ownership because of higher accruals quality. Besides, this study also finds that higher family ownership directly decreases total risk. It implies that family shareholders are less likely to expropriate wealth from other shareholders through earnings management. This finding is consistent with the alignment effect in the agency theory (Jensen and Meckling, 1976). Moreover, this is also consistent with prior studies which note that family firms exhibit significantly better accounting and market performance than non-family firms, but firm value increases as the level of insider ownership rises and then declines as insiders become entrenched (Anderson and Reeb, 2003a; Lin, 2003). This study shows that firms with higher proportion of institutional investors have lower stock investment risk. Institutional investors are sophisticated in that they use non-earnings information to predict future earnings (Jiambalvo et al, 2002). Besides, long-term oriented institutional investors might increase firm value through their influence in managerial decision (Holderness and Sheehan, 1985; Barclay and Holderness, 1991). Firms' risk might be minimized by restricting managers' ability to manage earnings. This study employs two different measures of product market competition, i.e., the Herfindahl index (H-Index) and an industry-adjusted price-cost margin (IPCM). The results show that firms enjoying higher market power have higher accruals quality than firms in competitive product market. This is consistent with prior study which suggests that firms in highly competitive industries save more for (borrow more from) the future when firms' current pre-managed earnings are above (below) the industry median and future earnings are below (above) the industry (Zhou, 2000). This study also finds the increased Herfindahl index has direct and indirect effects on stock investment risk by

decreasing both idiosyncratic risk and total risk. Nevertheless, the higher industry-adjusted price-cost margin decreases stock investment risk through accruals quality. These results are consistent with prior study which notes that firms enjoying high market power, or having established in concentrated industries, have lower idiosyncratic volatility (Gaspar and Massa, 2006). Finally, firms with more media coverage have lower accruals quality and higher stock investment risk. Media coverage directly influences a firm's performance and managerial behavior. Besides, media attention could affect reputations of managers and board members in the eyes of shareholders and future employers. Thus, managers may have incentive to manipulate earnings in order to meet or beat earnings forecast or their news releases. In addition, the market reacts to the announcement of firms' releases because investors use the information in pricing stocks and the reactions by investors give rise to higher return volatility. This is inconsistent with Fang and Peress (2009) who found that stocks with no media coverage earn higher returns than stocks with high media coverage. These results are more pronounced among small stocks and stocks with high individual ownership, low analyst following, and higher idiosyncratic volatility. The results of hypothesis testing are summarized in Table 5.1

On the whole, the results show that good corporate governance mechanisms, i.e. higher corporate governance index, higher proportion of family ownership, higher proportion of institutional ownership and higher market power, decrease the stock investment risk of a firm directly and through the higher quality of accounting information, i.e. accruals quality, indirectly. Thus, the regulators could use the results to promote the benefits of implementing good corporate governance. However, this

study shows that firms with greater media coverage increase the stock investment risk directly and through their poor accruals quality indirectly. Thus, the regulators might give attention to firms with media coverage on their performance because the latter might manage the earnings.

Table 5.1
Summary of Results of Hypothesis Testing

Hypothesis No.	Variables	Expected Sign	Test Sign	Results	Level
The Association between Corporate Governance Mechanisms and Accruals Quality					
H1	CGI	+	+	Support	**
H2a	F_OWN	+	+	Support	***
H2b	INS_OWN	+	+	Not support	
H3a	H-Index	+	+	Support	*
H3a	IPCM	+	+	Support	***
H3b	MEDIA	+	-	Support but opposite sign	*
The Association between Accruals Quality and Idiosyncratic Risk					
H4	AccQ	-	-	Support	***
The Association between Corporate Governance Mechanisms and Idiosyncratic Risk					
H5a	CGI	-	-	Support	***
H5b	CGI	-	-	Support	
H6a	F_OWN	-	-	Not support	
H6b	F_OWN	-	-	Support	
H7a	INS_OWN	-	-	Support	**
H8a	H-Index	-	-	Support	**
H8b	H-Index	-	-	Support	
H8a	IPCM	-	-	Not support	
H8b	IPCM	-	-	Support	
H9a	MEDIA	-	+	Support but opposite sign	***
H9b	MEDIA	-	+	Support but opposite sign	

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*/**/*** represent significance at 10%, 5% and 1%, respectively.

**Table 5.1 (Continuing from Page 147)
Summary of Results of Hypothesis Testing**

Hypothesis No.	Variables	Expected Sign	Test Sign	Results	Level
The Association between Accruals Quality and Total Risk					
H4	AccQ	-	-	Support	***
The Association between Corporate Governance Mechanisms and Total Risk					
H5a	CGI	-	-	Support	*
H5b	CGI	-	-	Support	
H6a	F_OWN	-	-	Support	**
H6b	F_OWN	-	-	Support	
H7a	INS_OWN	-	-	Support	**
H8a	H-Index	-	-	Support	***
H8b	H-Index	-	-	Support	
H8a	IPCM	-	-	Not support	
H8b	IPCM	-	-	Support	
H9a	MEDIA	-	+	Support but opposite sign	***
H9b	MEDIA	-	+	Support but opposite sign	

*/**/*** represent significance at 10%, 5% and 1%, respectively.

5.2 CONTRIBUTIONS

This study contributes academically to accounting literature, investors, shareholders, auditors, standard setters, regulators and other stakeholders as described below.

First, this study contributes to the corporate governance literature by investigating the overall association between the corporate governance and stock investment risk. This study is the first to provide the evidence of the relation of corporate governance mechanisms, i.e., internal corporate governance, ownership structure and external corporate governance to stock investment risk through accruals quality. Besides, this study is one of the few studies that provide the evidence of the direct association between corporate governance mechanisms and stock investment risk. These results are meaningful to the above parties to better understand the consequence of the corporate governance mechanisms of Thai listed companies and their association with accruals quality and stock investment risk.

Second, this study in a small way adds to the pool of knowledge related to corporate governance by investigating the association between internal corporate governance and accruals quality. This study uses the composite corporate governance index which captures all five aspects of corporate governance. The results show that firms with good internal corporate governance have higher accruals quality and lower stock investment risk. Therefore, investors could make better decision in stock selection based on the internal corporate governance levels of the firms to invest. Besides, the regulators can use the results to promote the benefits of implementing good corporate governance or to give incentives to listed firms to practice better

corporate governance in order to improve the protection of investors in the Thai capital market.

Moreover, this study also probes the effects of media coverage on accruals quality and the stock investment risk. The effects of media coverage on accruals quality and stock investment risk are another contribution of this study since no prior study concerns this topic even in developed markets. The benefit of this empirical study shows that firms with more media coverage have lower accruals quality and higher stock investment risk.

Finally, this study contributes to the literature on earnings management by providing the empirical evidence on the association between accruals quality and stock investment risk using Thai dataset. The study finds that firms with higher accruals quality have lower idiosyncratic risk and total risk, and that accruals quality is a mediating variable between corporate governance mechanism and stock investment risks. The Thai dataset of emerging market economies is used to make this study more interesting. Unlike in some developed market economies, companies in emerging markets are mostly closely held often by the founding family and have weak investor protection, ineffective legal enforcement, unreliable accounting practice, as well as poor disclosure and transparency standards. However, these characteristics are similar for companies in other East Asian countries (La Porta et al., 1999, 2006). Therefore, using Thai dataset in this study may be applicable to other countries which have similar characteristics.

5.3 LIMITATIONS

Since the empirical test results are based on secondary data analysis using discretionary accruals models, the interpretation should be treated with caution. In addition, the discretionary models are only a statistical proxy for earnings management at the firm level, so they may include measurement error. Furthermore, this finding might not necessarily imply that the sampled firms actually managed their earnings.

This study investigates the association between corporate governance mechanisms and stock investment risk using the quality of accounting information, i.e. accruals quality, as the mediating variable. There are other factors, such as firm profitability, debt servicing capability, which could be used as the mediating variable. However, this paper employs dividend distribution as a proxy for such factors.

This study is limited by using the family information provided in the firm annual reports. Thus, this study does not include the closed relative family ownership with different surnames or nominees because it is ambiguous and difficult to identify family relations in Thailand.

Besides, this study concerns mainly with the overall intensity of media's monitoring of firms and their managers; thus, articles published in the SET news and press releases without distinguishing between positive and negative news coverage are used in the study.

5.4 FUTURE RESEARCH

Since the critical issue of earnings management studies is the capacity of the model to estimate the discretionary accruals, the author encourages the use of other models by other future researchers to determine discretionary accruals.

Moreover, if in the future research the media coverage were distinguished between good news and bad news, we would better understand the likelihood of earnings management by firms and incentive of managers to manipulate earnings. The focus should be on types of news released by firms and/or published by the press, such as management forecast, management compensation plan and related parties transactions. By so doing, criteria to distinguish between good and bad news could be determined and the relation to the quality of accounting information identified.

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APPENDICES

Appendix A

Criteria in Corporate Governance Index Rating (Connelly et al., 2008)		
Criteria	Scoring	References
I. Rights of Shareholders		Total of 22 items; maximum score = 42 (25 percent of CGI)
A.	Shareholder Rights Defined	Total of 4 items
	1. Other ownership rights other than voting are offered	Earn 2 points if provided with equitable share of profits and dividends and equitable treatment for share repurchases; earn 1 point if only one right is offered, and earn 0 point if neither is offered.
	2. The remuneration is approved by shareholders annually	Earn 2 points if approved and 0 point if otherwise
	3. Board remuneration is presented to the shareholders	Earn 2 points if compensation details are provided for every director; earn 0 point if only total figure is provided
	4. Board members are individually elected by shareholders	Yes = 2 points; otherwise = 0 point
B.	Shareholder Rights Disclosed	Total of 8 items
	1. Quality of Notice to call Shareholders' Meeting(s)	
	a) Director appointment	Name(s) and background are provided = 2; only one item is provided = 1; otherwise = 0
	b) Auditor appointment	Name(s), profile, and fees are provided = 2; two of the three items are provided = 1; otherwise = 0
	c) Dividend policy amount and explanation for payment	Both items are provided = 2; only one of the two items is provided = 1; neither is provided = 0
	d) Shareholders' meeting agenda contains objective and reason for each item	Included = 2; otherwise = 0
	e) Each agenda item has director's comments and opinion	Included = 2; otherwise = 0
	2. Quality of Minutes of Shareholders' Meeting(s)	
	a) Voting method and vote counting system announced prior to the AGM commences	Declared = 2; otherwise = 0
	b) AGM minutes show (1) an opportunity for shareholders to ask questions/ raise issues during the past year, and (2) a record of questions and answers	Both items are included = 2; if time for questions is allotted but answers /issues are not recorded = 1; neither is present = 0

Criteria		Scoring	References
	c) Voting results for each agenda item, including both “for” and “against” vote tallies, are shown in the minutes	Both items included = 2; only one of the two items is shown =1; neither is shown = 0	
C.	Shareholder Participation in AGM	Total of 7 items	Ferris, Jagannathan, and Pritchard 2003, Fich and Shivdasani 2005, Gillian and Starks 2000, Karpoff, Malatesta, and Walkling 1996
	1. Recording names of attending board members in the AGM minutes	Recorded = 2; otherwise = 0	
	2. Attendance by Chairman of the Board in the last two AGMs	Attended the last two AGMs = 2; attended only one meeting = 1; attended neither = 0	
	3. Attendance of CEO / Managing Director / President (top executive officer) in the last two AGMs	Attended the last two AGMs = 2; attended only one meeting = 1; attended neither = 0	
	4. Attendance of Chairman of the Audit Committee.	Attended the last two AGMs = 2; attended only one meeting = 1; not attending either = 0	
	5. Attendance of Chairman of the Compensation / Remuneration Committee.	Attended the last two AGMs = 2; attended only one meeting = 1; not attending either = 0	
	6. Attendance of Chairman of the Nomination Committee.	Attended the last two AGMs = 2; attended only one meeting = 1; not attending either = 0	
	7. Additional AGM/EGM agenda item(s) included in the meeting but omitted from the meeting notice	No items included = 0; item(s) included = -1 (penalty score)	
D.	Takeover rules and anti-takeover defenses	Total of 3 items	Bhagat and Brickley 1984, Claessens, Djankov, Fan, and Lang 2002, Claessens, Djankov, and Lang 2000, Jensen and Meckling 1976, La Porta, Lopez-de-Silanes, and Shleifer 1999, 1990, Morck, Shleifer, and Vishny 1988, Shleifer and Vishny 1986
	1. Cross shareholding apparent	No evidence of cross-holdings = 2; Cross-holdings are likely =1; obvious evidence of cross-holdings = 0	
	2. Pyramid holding apparent	No evidence of pyramidal structure = 2; pyramid shareholding is likely =1; obvious evidence of pyramid holdings = 0	

Criteria		Scoring	References
	3. Board members holdings	Directors in total hold more than 25 percent of the outstanding shares = 2; otherwise = 0	
II. Treatment of shareholders			Total of 13 items; maximum score = 24 (15 percent of CGI)
A.	Voting rights for shares	Total of 3 items	Bhagat and Brickley 1984, Givoly and Palmon 1985, Grossman and Hart 1988, La Porta, Lopez-de-Silanes, Shleifer, and Vishny 1997 and 1998
	1. Voting rights for shares	There is only one class of share with one-share, one-vote = 2; more than one class of shares has higher, but not excessive, voting rights = 1; voting rights are excessive (e.g. 50 percent or more voting rights per 10 percent of capital) = 0	
	2. Board composition influenced by minority shareholders	Mechanism is offered = 2; otherwise = 0	
	3. Cumulative voting used for board member election	Yes = 2 (bonus score); otherwise = 0	
B.	Shareholder conflict	Total of 6 items	Cheung, Rao, and Stouraitis 2006, Friedman, Johnson, and Mitton 2003, Johnson, La Porta, Lopez-de-Silanes and Shleifer 2000, La Porta, Lopez-de-Silanes, Shleifer, and Vishny 1997 and 1998
	1. System established to prevent the use of material inside information and informed all employees, management, and board members	Such system is established = 2; otherwise = 0	
	2. Company directors' and/or management's involvement in insider trading cases during the past two years	No such instance = 2; otherwise = 0	
	3. Rationale / explanation offered for related-party transactions affecting the corporation before conducting any related-party transactions that require shareholders' approval	No related-party transactions were observed or company provides rationale/full disclosure (name, relationship, policy, value of transaction, and board opinion) = 2; some but not all information is provided = 1; no rationale provided for related-party transaction(s) = 0	
	4. Non-compliance case(s) regarding related-party transactions in the past two years	No non-compliance cases = 2; company received a disclosure waiver from the exchange and/or regulator = 1; non-compliance cases exist = 0	
	5. Level of business interconnections	Lowest level = 2; moderate level = 1; highest level = 0	

Criteria		Scoring	References
	6. Related-party transactions to non-subsidiary companies	Transactions of financial assistance to non-subsidiaries exist = -1; otherwise = 0	
C.	Proxy Voting	Total of 3 items	Brickley 1986, La Porta, Lopez-de-Silanes, Shleifer, and Vishny 1997 and 1998, Maug and Rydqvist 2001, Pound 1991
	1. Proxy voting facilitated	Shareholders receive proxy voting forms together with AGM notice = 2; otherwise = 0	
	2. Shareholders possess knowledge of required proxy documents	AGM notice identifies the required documents to give proxy = 2; otherwise = 0	
	3. Proxy appointment requires notary	Not required = 2; otherwise = 0	
D.	AGM Procedures	Total of 1 item	
	1. Length of time of receiving the AGM in advance	30 days or more before the meeting = 2; 21-30 days = 1; less than 21 days = 0.	
III. Role of stakeholders			Total of 9 items; maximum score = 14 (10 percent of CGI)
A.	Level of employees' safety and welfare policy/benefits	Earn 0.67 point if explicitly mentioned and coverage being comprehensive; earn 0.33 point if only superficial coverage provided; earn 0 point for no mentioning	Berman, Wicks, Kotha, and Jones 1999, Connelly and Limpaphayom 2004, La Porta, Lopez-de-Silanes, Shleifer, and Vishny 1997 and 1998
B.	Provision of provident fund/retirement fund to employees	Provided = 0.67; otherwise = 0.33	
C.	Professional development training programs for employees	Earn 0.67 point if explicitly mentioned and coverage being comprehensive; earn 0.33 point if only superficial coverage provided; earn 0 point for no mentioning	
D.	Role of customers	Earn 2 points if explicitly mentioned and coverage being comprehensive; earn 1 point if only superficial coverage provided; earn 0 point for no mentioning	
E.	Disclosure of environmental issues	Explicitly mentioned together with standards and explanation provided = 2; only disclose as required by law = 1; no mentioning = 0	
F.	Role of suppliers/business partners	Earn 2 points if explicitly mentioned and coverage being comprehensive; earn 1 point if only superficial coverage provided; earn 0 point for no mentioning	

Criteria		Scoring	References
G.	Obligations to shareholders	Earn 2 points if explicitly mentioned and coverage being comprehensive; earn 1 point if only superficial coverage provided; earn 0 point for no mentioning	
H.	Broader obligations to society and / or the community	Earn 2 points if explicitly mentioned and coverage being comprehensive; earn 1 point if only superficial coverage provided; earn 0 point for no mentioning	
I.	Obligation to creditors	Earn 2 points if explicitly mentioned and coverage being comprehensive; earn 1 point if only superficial coverage provided; earn 0 point for no mentioning	
IV. Disclosure and transparency			Total of 32 items; maximum score = 40 (25 percent of CGI)
A.	Disclosure of material information Transparency of the ownership structure	Total of 4 items	Bushman, Piotroski, and Smith 2004, Claessens, Djankov, Fan, and Lang 2002, Himmelberg, Hubbard, and Palia 1999, La Porta, Lopez-de-Silanes, Shleifer, and Vishny 1998, La Porta, Lopez-de-Silanes, and Shleifer 1999, Mallette and Fowler 1992
	1. Providing details of shareholding structure	Provided = 2; otherwise = 0	
	2. Beneficial ownership	Easily identified = 2; nominees or holding companies hold shares less than 15% = 1; nominees or holding companies hold shares more than 15% = 0	
	3. Shares held by directors	Disclosed = 2; otherwise = 0	
	4. Shares held by management	Disclosed = 2; otherwise = 0	
B.	Quality of the Annual Report. Does the report include:	Total of 8 items	Boyd 1994, Bushman, Piotroski, and Smith 2004, Ferris, Jagannathan, and Pritchard 2003, Fich and Shivdasani 2005, Meek, Roberts, and Gray 1995, Ryan and Wiggins 2004, Singhvi and Desai 1971,
	1. Financial performance	Easily understandable, complete, and informative = 2; superficial = 1; unavailable = 0	
	2. Business operations and competitive position	Easily understandable, complete, and informative = 2; superficial = 1; unavailable = 0	
	3. Operating risks	Easily understandable, complete, and informative = 2; superficial = 1; unavailable = 0	
	4. Board member background	Full disclosure = 2; disclosure of only few items = 1; no disclosure = 0	
	5. Identification of Independent Directors	Identified = 2; Not identified = 0	

Criteria	Scoring	References
6. Basis of board remuneration	Disclosed in detail and by individual = 2; Disclosed in aggregate amount = 1; Not disclosed = 0	
7. Disclosure of individual directors' compensation	Disclosed in detail = 2; Superficially disclosed = 1; Not disclosed = 0	
8. Board meeting attendance of individual	Disclosed in detail (by individual) = 2; Disclosed in aggregate (not by individual) = 1; Not disclosed = 0	
C.	External disclosure	Total of 20 items
1. Public disclosure of related parties' transactions	No related parties' transactions exist or, if any, full disclosure provided = 2; part of related parties' transactions disclosed = 1; No information provided = 0	Ashbaugh, Johnstone, and Warfield 1999, Bushman, Piotroski, and Smith 2004, Cheung, Rau, and Stouraitis 2006, Fan and Wong 2005, Farragher, Kleiman, and Bazaz 1994, Gregory, Matatko, Tonks, and Purkis 1994, Hillier and Marshall 2002, Johnson, LaPorta, Lopez-de-Silanes, and Shleifer 2000, Lang and Lundholm 1993 and 1996, La Porta, Lopez-de-Silanes, Shleifer, and Vishny 1997 and 1998
2. Existence of specific policy that requires directors to report their holding of company shares	Having a specific policy = 2; Not having or requiring disclosure of managers only = 0	
3. Qualifications of auditors who perform annual audit	Reputable and recognized auditors = 2; Auditors who are not approved by SEC = 1; No disclosure of auditor or not independent auditor = 0	
4. Type of audit opinion	Unqualified opinion = 2; Unqualified with special mention items = 1; qualified opinion = 0	
D.	Are multiple channels used to provide access to information?	
1. Annual report	1. Annual report	
2. Company website	2. Company website	
3. Analyst briefing(s)	3. Analyst briefing(s)	
4. Press conference(s) / press briefing(s)	4. Press conference(s) / press briefing(s)	
5. Timeliness of financial report disclosure during past three years	5. Timeliness of financial report disclosure during past three years	

Criteria	Scoring	References
	6. Contents of the company website with up-to-date information:	
	a) Business operations	Used = 0.22; otherwise = 0
	b) Financial statements	Used = 0.22; otherwise = 0
	c) Press releases	Used = 0.22; otherwise = 0
	d) Shareholding structure	Used = 0.22; otherwise = 0
	e) Organization structure	Used = 0.22; otherwise = 0
	f) Corporate group structure, if applicable	Used = 0.22; otherwise = 0
	g) Downloadable annual report	Used = 0.22; otherwise = 0
	h) Notice to call shareholders' meeting	Used = 0.22; otherwise = 0
	i) Dual-language website	Used = 0.22; otherwise = 0
E.	Contact details provided for a specific Investor Relations person or unit	Provided = 0.22; otherwise = 0
F.	Regulatory sanctions required revision of financial statements Existence of regulatory sanctions and required revision of financial statements	No sanctions or revision during last year = 0; otherwise = -1
V. Board Responsibilities		Total items = 41; maximum score = 50 (25 percent of CGI)
A.	Index of board monitoring / control efforts	Total items = 21
	1. Description of corporate governance rules	Rules are approved by board and they are disclosed = 2; Having rules but rules are not necessarily approved by board = 1; No rules = 0
	2. Board of Directors provides a code of ethics or statement of business conduct for all directors and employees; Board ensures all are aware of and understand the code	Code exists and is effectively communicated = 2; Code exists but not effectively communicated = 1; No existence of code = 0
	3. Corporate vision / mission	Present = 2; Absent = 0
	4. Existence of non-compliance case from the past year regulatory test	No existence of non-compliance case with exchange or regulatory rules = 2; One non-compliance case exists = 1; Two or more cases exist or one serious offense case exist s = 0
	5. Internal audit function	Company has its own internal audit department = 2; Company outsources internal audit function = 1; No internal audit function exists = 0.

Criteria		Scoring	References
	6. Line of reporting for internal audit function	Internal audit function reports to the Board of Audit Committee = 2; Internal audit function reports to operating management only = 0	
	7. Quality of the Audit Committee Report in the Annual Report, containing the following key items:		
	a) Attendance	Available = 0.286; otherwise = 0	
	b) Internal control	Available = 0.286; otherwise = 0	
	c) Management control	Available = 0.286; otherwise = 0	
	d) Proposed auditors	Available = 0.286; otherwise = 0	
	e) Financial report review	Available = 0.286; otherwise = 0	
	f) Legal compliance	Available = 0.286; otherwise = 0	
	g) Overall concluding opinion	Available = 0.286; otherwise = 0	
	8. Orientation for new directors	Provided with implementation evidence = 2; Not provided or no implementation evidence = 0	
	9. Board member training	Directors have attended the professional/accredited directors' training = 2; otherwise = 0	
	10. Board meeting frequency	More than four times in 2005 and more than two times in 2004 = 2; Four times in 2005 and two times in 2004 = 1; Less than four times in 2005 and less than two times in 2004 = 0	
	11. Attendance percentage of board members	Over 80 percent during the past 12 months = 2; 70-80 percent = 1; Less than 70 percent = 0	
	12. Risk management policy	Provided = 2; otherwise = 0	
	13. Clear distinction between the roles, duties, and responsibilities of the board and management	Both board and management roles are clearly defined = 2; otherwise = 0	
	14. Annual board self-assessment	Conducted and documented = 2; otherwise or either one of the two = 0	
	15. Annual performance assessment of CEO/MD/President	Conducted and documented = 2; otherwise or either one of the two = 0	

Criteria		Scoring	References
B.	Assessment of conflicts of interest	Total items = 1	Coles and Hesterly 2000
	1. Chairman independence	Independent = 2; otherwise = 0	
C.	Utilization of independent board committees and independent members	Total items = 15	Bostock 1995, Brick, Palmon and Wald 2006, Carcello, Hermanson, and Neal 2002, Carcello and Neal 2000, Daily, Johnson, Ellstrand, and Dalton 1998; Klein 1998 and 2002, Krishnan 2005
	1. Presence of an Audit Committee, including the following items:	Present = 2; Absent = 0	
	a) Charter/Role and responsibilities	Present = 0.5; Absent = 0	
	b) Profile /Qualifications	Present = 0.5; Absent = 0	
	c) Independence	Present = 0.5; Absent = 0	
	d) Performance / Meeting Attendance record	Present = 0.5; Absent = 0	
	2. Presence of a Compensation / Remuneration Committee, including the following items:	Present = 2; Absent = 0	
	a) Charter/Role and responsibilities	Present = 0.5; Absent = 0	
	b) Committee composition	Majority of independent directors present in the board = 0.5; Otherwise = 0	
	c) Committee chairman independence	Independent director = 0.5; otherwise = 0	
	d) Performance / Meeting Attendance record	Present = 0.5; Absent = 0	
	3. Presence of a Nomination Committee, including the following items:	Present = 2; Absent = 0	
	a) Charter/Role and responsibilities	Present = 0.5; Absent = 0	
	b) Committee composition	Majority of independent directors present in the board = 0.5; Otherwise = 0	
	c) Independence of committee chairman	Yes = 0.5; No = 0	
	d) Performance / Meeting Attendance	Score 0.5 if present; 0 if missing	
D.	Definition of board independence	Total items = 1	Beasley 1996, Mallette and Fowler 1992
	1. 'Director independence' is publicly defined	Defined = 2; otherwise = 0	

Table B.2 Principles of Good Corporate Governance for Listed Companies in Thailand

Principles	Description
1. Rights of shareholders	Shareholders are the owners of the company. They control the company by appointing the board of directors to act as their representatives. Shareholders are eligible to make decisions on any of significant corporate changes. Therefore, the company should encourage shareholders to exercise their rights.
2. Equitable treatment of shareholders	All shareholders, including those with management positions, non-executive shareholders and foreign shareholders should be treated in an equal way. Minority shareholders whose rights have been violated should be redressed.
3. Role of stakeholders in corporate governance	Stakeholders of a company should be treated fairly in accordance with their legal rights as specified in relevant laws. The board of directors should provide a mechanism to promote cooperation between the company and its stakeholders in order to create wealth, financial stability and sustainability of the firm.
4. Disclosure and transparency	The board of directors should ensure that all important information relevant to the company, both financial and non-financial, is disclosed correctly, accurately, on a timely basis and transparently through easy to access channels that are fair and trustworthy.
5. Responsibility of the board	The board of directors plays an important role in corporate governance for the best interest of the company. The board is accountable to shareholders and independent of management.

Source: The Stock Exchange of Thailand, 2006

Criteria		Scoring	References
E.	Assessment of communication	Total items = 1	Beasley 1996
	1. Separate issuance of Board of Director's report which describe each board member's responsibilities in reviewing firm's financial statements	The report is issued = 2; otherwise = 0	
F.	Management incentive scheme	Total items = 1	Core and Guay 2001, DeFusco, Johnson, and Zorn 1990, Yermack 1995
	1. Incentive for top management through option scheme	Exercise period is over three years and exercise price is higher than market value at the award time = 2; No option scheme exists = 0	
G.	Regulatory compliance	Total items = 1	La Porta, Lopez-de-Silanes, Shleifer, and Vishny 1997, 1988
	1. Non-compliance cases	No serious offence existed last year = 0; otherwise = -1	

Appendix B

OECD Principles of Corporate Governance and Principles of Good Corporate Governance for Listed Companies in Thailand

Table B.1 OECD Principles of Corporate Governance

Principles	Description
1. Rights of shareholders	Firm should protect and facilitate the exercise of shareholders' right. For example, shareholders should be secure in the method of voting, obtain relevant and timely information, and be encouraged to participate in the general shareholders meeting, and so on.
2. Equitable treatment of shareholders	Firm should provide equitable treatment of all shareholders, including minority and foreign shareholders. All shareholders should have the opportunity to obtain effective redress for violation of their rights.
3. Role of stakeholders in corporate governance	Firm should recognize the rights of stakeholders as established by laws or through mutual agreements and encourage active co-operation between firms and stakeholders in creating wealth, jobs, and the sustainability of financially sound enterprises.
4. Disclosure and transparency	Firm should ensure that timely and accurate disclosure is made on all material matters including the financial situation, performance, ownership and governance of the company.
5. Responsibility of the board	Board of directors should provide strategic guidance to the firm, the effective monitoring of management, and board accountability to the firm and the shareholders.

Source: OECD, 2004

BIOGRAPHY

Panya Issarawornrawanich in 1994 graduated from Chulalongkorn University, Thailand, with a Bachelor of Accountancy. He was then awarded a diploma in Auditing and a Master of Science in Accounting from Thammasat University in 1995 and 1999, respectively.

He had been with Ernst & Young Office Limited for 6 consecutive years with his last position as senior assistant auditor prior to his joining Faculty of Business Administration, Mahanakorn University of Technology (MUT), as a full-time lecturer for four academic years. His last academic title at MUT in 2004 was head of the Accounting Department of the Business School.

Since 2004 he has been a faculty member of Faculty of Commerce and Accountancy, Thammasat University, and he presently holds an academic title of Assistant Professor of the Accounting Department. He has been awarded a scholarship to pursue his Ph.D. study and now is a Ph.D. candidate with accounting major at Chulalongkorn University.